The Impact of Dialectal Awareness on a Phoneme Based Early Literacy Intervention.

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Attestation of Authorship

To the best of my knowledge, material presented in this thesis does not incorporate, without acknowledgement, any material previously submitted for a degree or diploma in any university. Also, it is therefore my belief that it does not contain any material published or written by any other person or persons except where due reference is made in the text.

The research reported on in this thesis, has been approved by the University of Canterbury Educational Research Human Ethics Committee.

This thesis is dedicated to the memory of

John Vincent Belgrave

(13/4 /1927-15/1/2010)

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Abstract

This research investigated the hypothesis that including a Dialectal Awareness component to Phonemic Awareness based early literacy intervention would improve acquisition for struggling readers and writers.

The research involved a total of 106 participants, in three separate studies over a two-year period. All three studies involved providing literacy interventions, where achievement data was gathered before, midway and following the interventions. The first two studies involved standardised testing measures, while the third study included tests specifically designed by the researcher to measure targeted areas of Dialect Differences and density as determined through the first two studies.

Study One was a Pilot Study involving two female participants of approximately seven years of age, to ascertain dialectal characteristics and possible intervention strategies for the main study, Study Two.

Study Two, comprising four treatment groups, included a control intervention in which matched students were provided with typical teaching methods used in the classrooms of the schools where the studies were conducted. The other three groups received either a Dialectal Awareness programme only, a Phonemic Awareness programme only, or a combination of the two programmes.

Study Three replicated Study Two, with two treatment groups that were Phonemically, age, gender and ethnically matched, to confirm the reliability of the results from Study Two. The groups received either the Phonemic Awareness programme or the combination of the Phonemic Awareness and Dialectal Awareness programme.

All three studies produced positive results with regard to improvements in the participants' literacy levels compared to normal classroom teaching. However, comparisons

with the Phonemic Awareness training intervention were mixed. Overall, participants who received focused Dialectal Awareness strategies as part of their interventions showed similar improvements in reading of connected text, spelling, Phonemic Awareness, Writing and the ability to 'code-switch' in oral contexts, to those who had received the Phoneme based programme only. Implications of these findings were considered, with regard to challenges to theories pertaining to the importance of phonemic awareness training and relevance to current teaching practice in New Zealand, with regard to New Zealand Māori and Pasifika children.

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Chapter One

General Introduction and Overview of the Thesis/Research

1.1 Introduction

An ongoing theme, on a global scale is the common desire for children to attain literacy levels that will enable them to not only fulfil their potential as successful life-long learners, but ultimately, as successful adult citizens of society (Pressley, 2015; Slavin et al, 1995; Tymms & Merrell, 2007). However, for seemingly unknown reasons, some students of seemingly normal intelligence are unable to acquire the necessary skills to achieve these desires (Pressley, 2006; Shanahan & Barr, 1995; Spear-Swerling & Sternberg, 1996). While schools, teachers and parents strive to improve literacy acquisition, governments around the world pass legislation pertaining to how society can raise literacy levels. For example, these include the "Success for All" (Slavin et al, 1992) in the United States of America, "No Child left Behind" Act (Bush, United States Department of Education, 2002), the "Excellence In Schools" in England (DfEE, 1997), and in New Zealand, "National Standards" (New Zealand Parliament, 2008; Ministry of Education, 2009a); yet still the problem persists. Educators world-wide are aware that children enter school at various stages of readiness and with an assortment of skills, including language skills (Connor et al., 2004; Connor et al., 2009; Craig et al., 2003; Ford, 2013; Foulin, 2005; Nicholson, 1997; Prochnow et al., 2015; Roth et al., 2002; Tunmer & Chapman, 2012) yet they are often expected by governments, to reach certain milestones or skill requirements at specific ages on their journey to becoming literate. For example, the *New Zealand Curriculum Reading and Writing Standards* states that after one year at school, students "will independently write simple texts" including "several sentences (including some compound sentences with simple conjunctions such as "and")", (Ministry of Education, 2009 p.21).

In her study of Reading Recovery data in the USA, Lyons (1998) contended that most primary school teachers are aware and can confirm that children enter school with a wide variety of skills therefore teachers also need a wide variety of instructional strategies to meet these individual differences. She also suggests that these individual differences should be the indicators that dictate the type of intensive instruction certain children require, and that with the right amount or perhaps the right style of prevention, intervention and/or remediation, *all* children can learn to read. This is also the contention of others such as Allington & Walmsley (1995), Shaywitz & Shaywitz, (2004), and Valett (1980). If this is in fact the case, statistics indicating a "tail of underachievement" (Tymms & Merrell, 2007) in other countries that scored above the mean in the Progress in International Reading Literacy Study (PIRLS) 2001, 2006, 2011 data (Mullis et al., 2003, 2007, 2012), may seemingly also point to some possible inefficiencies in the type, quality and/or quantity of teaching being provided in schools. This is not only evident in New Zealand, (Chamberlain, 2007a; Hattie, 2003; Ministry of Social Development, 2004; New Zealand Parliament, 2008), but also overseas in countries such as England, USA, Canada and Singapore (PIRLS, 2001, 2006). However, Singapore has shown a reduction in their tail of underachievement from 2006 to 2011, as well as an increase in average scale score. While information pertaining to exact methods of instruction are not available, the PIRLS report by Mullis et al., (2012), does mention that some countries, such as Singapore have made changes to their education systems such that 'Many countries are engaged in implementing important structural, curricula and instructional reforms based on the PIRLS 2001 and 2006 results' (p.46).

Shaywitz & Shaywitz (2004) discuss the notion that reading is a reflection of a child's language, therefore reading disability reflects a deficit that a child may have with the language system. This suggests that the prevention, intervention and remediation

programmes that are in place in schools, need to be pertinent to the area(s) of language that are problematic for the individuals receiving them.

For example, Charity et al. (2004) found that classroom teaching programmes were not suited to many African American children in the United States of America. Peltier (2010) found similar problems for Indigenous learners in Canada. This could also suggest that interventions should involve language that is culturally relevant to the students. In Australia, Indigenous (Aboriginal) learners perform on average, below or well below their non-indigenous peers (Pearce et al., 2015; Wigglesworth et al., 2015). James (2009) has produced a programme, with a range of materials that promote Aboriginal learning because she contends that children or all learners find it easier to learn to read in the language that they regularly speak, and for Aboriginal learners, that language is known as Aboriginal English. Having learned to read in this language they can then transfer their skills over to reading and writing in standard Australian English (Honeyant.com.au, 2015).

Prevention, intervention and remediation programmes in New Zealand schools (these will be examined in more detail in Chapter Two) have yet to facilitate success in reading and writing for all students according to PIRLS, 2001, 2006, 2011(Mullis et al., 2003, 2007, 2012). There is a need to design reading and writing programmes that reflect the individual needs of children learning to read and write. Tunmer & Chapman (2015) assert that our tail of underachievement is because the interventions that are in place in many schools, such as the Reading Recovery programme (Clay, 1979), are not in fact effective for remediating reading difficulties. The Reading Recovery programme is discussed in detail in Chapter Two of this thesis.

Reading and writing require a complex relationship between six different skills or understandings, (Konza, 2014) and these skills are discussed in Chapter Two of this thesis.

One of these skills previously not recognised as overly important, is oral language (Konza, 2014).

Oral language, or more specifically speech pattern differences is an area that has been researched in many countries around the world, where these differences are now referred to as dialects (Pearce et al., 2015). Children who enter school with a dialect or non-standard form of English as their spoken language are known to struggle with attaining reading and writing skills in standard literary English (Charity et al., 2004; Godley et al., 2006; Hagemann, 2001; Hollie, 2001; Peltier, 2010). These studies also suggest that through the acceptance of speech differences and explicit instruction in the differences between their dialect and Standard English, particularly in the written form, children can improve their ability in reading and writing and learn to differentiate between Standard English and their own dialectical version of English Ivy & Masterson (2011), in their study of non-standard English speaking children in America, found that students did use non-standard English features in their writing. However, if these children were taught directly, the difference between their own dialect and the more formal English required for schooling, they were able to code or dialect switch at around eighth grade.

Through observation and personal experience (discussed in Chapter Two) it appears that there is a dialect of non-standard English spoken in some areas of New Zealand that may be be similar to those described in previous research (Gordon & Deverson, 1998; Hay et al., 2008; Holmes, 1997; Maclagan et al., 2008; Meyerhoff, 2006) and is possibly impacting on children's learning in reading and writing, in a similar manner to the impacts discussed in overseas research (Charity et al., 2004; Craig, 2016; Godley et al., 2006; Hagemann, 2001; Hollie, 2001; Ivy & Masterson 2011; Peltier, 2010).

In order to address this possibility, three separate studies were carried out, (each of which is described in detail in Chapters Five, Six and Seven respectively). To ascertain

participant's literacy levels in each of the studies, a variety of assessment measures were used.

1.2 Assessment measures

In study one, a pilot study, described fully in Chapter Four, the following measures were used.

i. Alphabet Letter/sound identification test (Clay, 1993)
ii. Peters Spelling Age Test (Peters, 1970)
iii. asTTle timed Writing Sample (Ministry of Education, 2011).
iv. Non-word decoding test (Bryant, 1975)
v. Burt Word Reading Test (Gilmore, Croft, & Reid, 1981)
vi. Phonemic Awareness Test (Roper, 1984)
vii. Running Record of oral reading (Clay, 1993)
viii. Record of Oral Language (Clay et.al., 1976)

These tests were chosen because they, with the exception of the Bryant (1975) and Roper (1984), are regularly used in schools throughout New Zealand to assist teachers to make judgements as to student's progress with regard to expectations for their age or year of schooling. In Study Two (Chapter Six), not all of these measures were used for reasons outlined in the discussion section of Chapter Five. In Study Three, specific measures pertaining to dialect difference and impact on spelling were developed, to target the characteristics of dialect density that had been obtained from studies one and two. All of the measures used throughout the three studies are described and discussed in detail in Chapter Four of this thesis.

1.3 Study One: Pilot Study to investigate dialect and intervention methods.

This study investigated the potential link between low literacy acquisition levels and dialectal differences between the 'non-standard' English spoken by many children from lower socioeconomic schools in New Zealand in normal day-to-day conversation and the standard English used as the basis of literacy work. Once acknowledged, these differences between spoken language and literacy-language could be used to support children's understanding of the link between literacy and language. Intervention programmes that focus on the link between letters and sounds may be more successful if attending to both the cognitive and the dialectical differences of the students. The present research investigated this possibility by assessing improvements in literacy of two students from a low decile school in New Zealand who showed evidence of common use of non-standard English and low literacy levels. The two students each received two half hour sessions a week over an eight week period of literacy intervention support that focused on linking letter sequences and language sounds but also targeted those areas of language where the non-standard English of the children differed from a standard form more consistent with accurate writing. Despite both children having shown poor progress in literacy over the previous two years of classroom tuition, the present intervention showed greater than expected improvements between pre and post intervention literacy measures of word and non-word reading, word spelling and writing, as well as phonemic awareness.

1.4 Study Two: Quasi-experimental Intervention Study

An experimental design was originally considered, with four groups of 20 participants, three of which would receive a different treatment (intervention), while the fourth received classroom teaching only. Because of the nature of working with participants from three different schools, it was not possible to meet the criteria for a true experimental design.

Bearing this in mind, it is more accurate then, to describe the research design as being quasi-experimental, where the sample is non- random and the groups have non -equivalent assignment (Cohen et al., 2001).

Participants were chosen from low decile Christchurch schools, at the recommendation of classroom teachers, based on their Running Record of Oral Reading and their timed asTTle writing sample. From 100 students nominated, 80 were chosen based on the Peters Spelling Age test results, as administered as part of this research.

The intervention phases were two blocks of eight weeks, with each group receiving two half hour sessions of either Phonemic Awareness instruction only, Phonemic Awareness and Dialectal Awareness instruction, Dialectal Awareness instruction only or regular classroom teaching only. Participants completed the same testing measures four times throughout the study, before the interventions, mid-way between the two blocks of interventions, after the interventions and a follow up six months after the interventions had ceased. All results and a full description of the study are found in Chapter Six.

1.5 Study Three: Follow up Intervention Study with phonologically matched groups

This study investigated the ability of Study Two to be replicated, using phonologically matched groups of participants. As with Studies One and Two, schools that were known to be of a low decile ranking were approached by email, to arrange meetings with the principals and literacy advisors, as to the possibility of allowing access to students for the purpose of the interventions. Once again, written permission was obtained and from four schools approached, two agreed to be involved in the study. One of the schools had been involved in Study Two, although, none of the same classroom teachers or students were involved.

Thirty students, in year two or three at the time they were recommended, aged between six and a half and eight years of age were tested. As with studies One and Two,

the Roper Phonemic Awareness (Roper, 1984) revised by Gough, Kastler and Roper and analysed by Nicholson (2005) was used to establish the children's Phonemic Awareness ability. This information was used to group the participants so that each group had a very similar range and median score on the Phonemic Awareness test.

One group received two half hour session a week of the Phonemic Awareness only intervention, the other received eight weeks of the Phonemic Awareness and Dialectal Awareness intervention, both as per Study Two.

Results and discussion arising from this study are detailed in Chapter Seven.

1.6 Definition of terms

Throughout this thesis a variety of topic specific labels or terms will be referred to regularly. Kortmann et al. (2013), identify 50 varieties of English spoken throughout the world, all of which share a proportion of 235 features. To ensure there is no confusion as to the meaning intended for these term, within this thesis will be defined as follows.

Standard English as that which is used in the text of reading materials used in mainstream New Zealand education, as well as that expected in written work, as defined by the parameters of *The Literacy Learning Progressions* (Ministry of Education, 2010).

Non-standard English will be defined as a variety of spoken English that displays common phonological and morphosyntactical differences to the Standard English used in education in New Zealand and within other English speaking countries discussed such as United States of America.

Māori English is a variety of non-standard English, spoken specifically in New Zealand, which has been defined by Holmes (1997) as a variety of New Zealand English. It can include the random use of Māori words and has been found to be spoken more often by Māori than European New Zealanders. Common characteristics are;

- The use of kinship terms, *bro, cuz or sis.*
- Devoicing of final /z/ (for example, *eyes* is pronounced as *ice*)
- Replacing /th/ with /d/or /t/
- /th/ fronting (for example, *thing* is pronounced as *fing)*
- Un aspirated initial /t/
- Use of *eh?* At the end of a sentence

Māori English differs slightly from region to region, for example, in the far north of New Zealand the rhotic /r/ can be heard. Worth noting at this point, is that Māori English is not one of the 50 varieties of English described by Kortmann, Bernd, & Lunkenheimer (2013), on their website eWave (http://ewave-atlas.org/).

New Zealand English is the variety of English spoken by most native New Zealanders, characterised as being non-rhotic and recognisable world-wide for the difference in vowel sounds, such as *fish* being pronounced as *fush.* It has many morphosyntactic features documented in (Kortmann et al., 2013) such as singular it for plural they in anaphoric use, for example *Those books are very informative. It can be obtained at Dillon's.*

African American English is the specific and well documented dialect spoken by people of African American descent, living in the United States of America. It has previously been known as African American Vernacular English (AAVE) and Ebionics. Characteristics of this dialect are outlined in Chapter Three of this thesis.

Aboriginal English is the recently recognised, post-colonial variety or dialect of non-standard English spoken by the indigenous people of Australia. It is recognisable as it sometimes includes indigenous (Aboriginal) words and uses a specific sentence structure and variety of words. For example zero relativisation in subject position, *That fella 'im got one eye, that my brudda* (Kortmann et al., 2013).

Australian English differs from other varieties of English in vocabulary, accent, pronunciation, register, grammar and sometimes spelling. As with New Zealand English, it is a product of colonisation that shows evidence of variations in pronunciation, a distinction is usually made between Broad, General and Cultivated Australian English, within the different regions of Australia.

The structure of this thesis is as follows; Chapter Two is a discussion of the literature pertaining to the theories and models of learning to read and write. Also included, is an account of personal experiences in teaching children with dialect differences, and an examination of literature pertaining to predictors and interventions. Chapter Three describes dialects world-wide and New Zealand specific incidences and research around dialects. Chapter Four looks closely at the assessment measures developed and used throughout the three studies. Chapters Five, Six and Seven describe and discuss the three separate studies undertaken as part of this research. Findings from all three studies, with thoughts as to future directions proposed are discussed in Chapter Eight.

Chapter Two

Theories and Models of Reading and Writing

2.1 Theories of Reading and Writing

The purpose of reading is to obtain meaning (see, for example, Adams, 1990; Blachman, 2000; Cambourne, 1988; Clay, 1991; Goodman, 1989; Goswami, 2005; Holdaway, 1972; Juel, 1991; Luke, 1992; Ministry of Education, 2009, 2011; Nicholson, 1997; Pressley, 2015; Shaywitz, 1996; Smith, 1979; Stanovich, 1986; Taylor et al., 1988; Tumner & Chapman, 2002). How individuals acquire the skills to gain meaning from texts as they read, is a question that has elicited a variety of theories and models over the past 50 years.

Researchers, such as Goodman (1986) and Smith (1979) suggest that reading skills are acquired through bringing your prior knowledge to the text and constructing meaning as you read whole texts. They explain that using letter, sound or word knowledge is a last resort when attempting to decipher a sentence. Goodman (1986) and Smith (1979) refer to this as the "Top-Down' process of reading. Because a reader is constructing meaning, it is also referred to as the 'constructivist' approach or theory. Other researchers, such as Gough (1984), contend that reading and subsequently understanding what you are reading, occurs by a process that they refer to as phonologically recoding words; this suggests that a written word is changed (recoded) into the way it sounds so that its meaning can be accessed from its entry in verbal vocabulary. This is known as the "Bottom-Up" process. It is sometimes referred to as "a simple view" (Pressley, 2006), or the 'Simple View of Reading' (Gough, 1984: Gough & Tunmer, 1986; Tunmer & Chapman, 2012).

The difference between these two theories has created debate amongst researchers, theorists and educators world-wide dating back to Chall's (1967) *Learning to read: The great*

debate, where he questioned 'phonics' as opposed to 'look-say' reading instruction methods.

This chapter explores these two theories, as well as discussing other influences and models that have subsequently been developed and impact on the way reading and writing are taught throughout the world, and in particular, within New Zealand.

2.1.1 The constructivist approach. As mentioned above, the constructivist or 'top-down' theory or model of literacy acquisition suggests that children can and will learn to read holistically. The reader brings prior knowledge to the text and uses a natural process to gain meaning from the text via a variety of cues, without the need for direct and explicit instruction in word-level skills such as letter sounds, phonemic awareness, syllable knowledge (Smith & Elley 1994). This theory or model of learning to read has also been referred to as the 'multiple cues' or 'searchlight model' (Stuart et al., 2008), as readers use many varied cues to enable them to read, such as gaining information from the text using semantic and/or sytactic cues, picture cues, drawing on prior knowledge and prior sentence context cues, to work out unknown words, thus eventually attain fluency and comprehension. There is no percieved requirement for readers to employ word level analysis to work out unknown words. In New Zealand, a prominent researcher, Marie Clay (1979) used this model of reading to develop her world recognised programme Reading Recovery (see 2.4, in this chapter for a description) and the assessment measure for recording the Running Record of Oral Reading (1993), (see description in Chapter Four). Shortly after this programme was developed, other scientific based research around the world was questioning the accuracy of a model that promoted the teaching of strategies (the multiple cue) that the constructivists contended were skills that weak and struggling readers relied upon.

Goodman's (1976), schema theory reflects a psycholinguistic approach, and he states that "Reading is a complex process by which a reader reconstructs, to some degree, a message encoded by the writer in graphic language" (p.472). Consistent with this definition,

learning to read is a challenge that requires the linking of oral language capabilities with a written representation, (see for example, Goodman & Goodman, 1979; Taylor et al., 1988; Wagner et al, 2003), through the ability to decode (written) words, and the construction of meaning, or a message, from a text (Everatt, 1999; Gough & Tunmer, 1986; Lonigan, 2003; Nicholson, 1997a; Pressley, 2015). Poor readers find it difficult to decode words (Gaskins et al., 1995), and in Gough and Tunmer's (1986) view of the reading process, decoding is a vital component that, together with comprehension, creates a fluent or skilled reader. The inclusion of decoding as a required skill in learning to read, facilitated the development of the 'bottom –up" theory or Simple View of Reading.

2.1.2 The Simple View of Reading. Simply put, the "simple view" of reading, is:

Decoding x Comprehension = Reading (D x C=R)

In order to decode words, students must be aware of phonemes, or individual sounds in words (phonemic awareness), and must subsequently be able to relate them to what is written down (Adams et al, 1998; Blachman, 2000; Brady, 1997; Ehri & Robbins, 1992; Gough & Hillinger, 1980; Juel, 1991; Liberman, 1997; Pressley, 2015; Rack et al., 1992; Savage et al., 2003; Scarborough & Brady, 2002; Vaughn & Linan-Thompson, 2003).

While researchers and theorists (Adams, 1990; Blachman, 2000; Cambourne, 1988; Clay, 1991; Goodman, 1989, Goswami, 2005; Juel, 1991; Luke, 1992; Pressley, 2015; Shaywitz, 1996, Stanovich, 1986; Taylor et al., 1988) would agree that the reason for reading is to make meaning from print, the processes used by beginning readers to recognize individual words within a text can vary. Pressley (2015) suggests that, based on brain imagery research, some readers learn to memorise whole words through repeated rote learning (sight word automaticity) as opposed to repeated sounding out (decoding). This is supported by the research of Dolch (1960) and Shaywitz (1996). This difference in theoretical underpinnings, that is, the contention by Goodman (1986) and Smith (1979) that children

learn through whole word/text reading, as opposed to the suggestion that decoding (Gough, 1984; Shaywitz, 1996) facilitates the acquisition of reading (fluency), and therefore comprehension knowledge, has more recently been expanded and explained in a number of other, more comprehensive or complex models. One of these is the Dual-route model of word reading.

2.1.3 Dual Route model. First proposed by Coltheart (1985), this theory relates to oral reading, word identification/reading skills and contends that there are two routes that the brain can employ to recognise and say words in context out aloud. One route is the lexical or direct route, where known words are seen and quickly accessed from the person's lexicon (mental dictionary), as in sight word or individual word reading. The other route is the indirect (sub or non-lexical route) whereby a person uses their letter/sound (grapheme/morpeme) knowledge to pronounce words, which then allows access to the lexicon to enable understanding to take place (Coltheart, 2006). This model has been claimed to be useful in diagnosing reading difficulties and/or disorders, as it is possible to tell which route a person is using, particularly when irregular words are pronounced phonetically as opposed to being recognised through direct access to the lexicon (Coltheart, 1996).

2.1.4 Division of Labour for acts of learning framework. Byrne (2005) proposed that any act of learning was a product of both the environment and the learner. Thus, when a child is learning to read, they are all individuals, in that they lie somewhere on a continuum that is a necessary balance between their personal knowledge and ability, and the type of environment required to facilitate literacy acquisition for them. For example, some children require very little explicit instruction at the word level in order to attain literacy skills that enable them to read fluently, while others require intensive explicit teaching and in some instances a number of tiers of interventions to acquire adequate literacy skills to enable them to read. These children would be referred to by Byrne (2005) as environmentally-dependent,

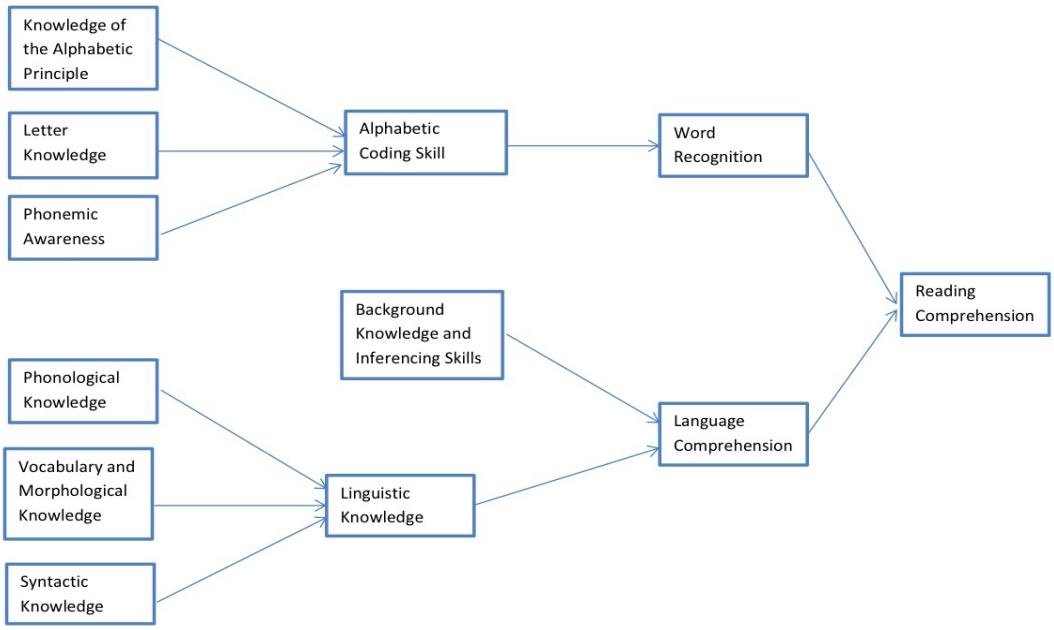
whereas the first type of learner is described as learner-dependent.

What seems to be apparent in this framework, is the inclusion of the two original theories discussed, the constructivist and the simple view of reading, whereby the two appear not as completely separate entities, but a part of one continuum, which is relevant to each learner, based on their own personal situation at the time they begin to learn to read formally. More recently, Tunmer and Hoover (2014) have developed what appears to be a slightly more in depth or comprehensive framework of reading acquisition, which combines and extends the Simple View of reading and the Division of Labour framework, to contend that reading comprehension (the making of meaning from text) is the final outcome, of six important forms of knowledge, that work together to enable a person to read. This is known as the cognitive foundations of learning to read framework (Tunmer & Hoover, 2014).

2.1.5 Cognitive Foundations of Learning to Read Framework. Given the number of factors or forms of knowledge involved in this framework, it is more easily explained in diagrammatic form. See Figure 2.1

Figure 2.1 Cognitive Foundations of Learning to Read Framework

(Tunmer & Hoover, 2014)



Interestingly, on examination of this framework, the first six skills or forms of knowledge lead directly to either Alphabetic Coding Skill or Linguistic Knowledge. There is not literal mention of Oral language, although this is implied through the Linguistic knowledge and Language comprehension route. Of these six skills, four are documented within other research as being crucial as predictors of reading and writing ability in children.

While models and theories pertaining to learning to read are seemingly numerous and varied, models and theories as to the acquisition of writing appear to be less common.

2.1.6 Theories and Models of Writing. From a teaching perspective, theories have evolved and changed over the past few decades, with shifts in skills and emphasis underpinning each change. Harris et al. (2003) summarised the changes in this manner. Writing has moved from:

i. a production or encoding skill, where spelling, grammar, handwriting and punctuation were taught as separate skills, which when put together facilitated

writing.

ii. A creative form of expression, where composing a text was viewed as creative writing and getting ideas down on paper was more important than correct grammar or spelling.

iii. Writing as a process, where the actual process or steps required to produce a text became the focus of teaching. Thus planning, drafting, conferring, refining and publishing were emphasised.

iv. Genre writing, whereby systematic instruction was specifically tailored to each of the genres and children were taught and scaffolded through each genre. To:

v. Writing within context and culture, where a balanced approach, involving all the previous methods, was underpinned by the student's culture and real-life knowledge and experiences. This is known as the multidimensional approach to teaching writing (Annandale et al., 2005).

From observations in schools and classrooms in New Zealand over the duration of this research, it appears that the multi-dimensional approach is still the approach favoured, with differences in programmes determined by the needs of individuals and the cultural/sociocultural backgrounds of the students.

Research pertaining to theories of writing acquisition as opposed to teaching writing strategies also appears to be more difficult to find, even though researchers acknowledge the inextricable link between reading and writing and the importance that both play in creating a literate person (Bruck & Waters, 1988; Chomsky, 1979; Juzwik et al., 2006; Treiman & Bourassa, 2000). Theories and models developed thus far tend to concentrate on writing development and/or writing instruction via either the production or process model described above, which pertains to teaching of writing rather than writing acquisition (Andrews & Smith, 2011; Juzwik et al., 2006). Theories of writing acquisition have tended to be

dominated by or underpinned by cognitive theories of learning in general, such as those by Vygotsky (1986) or Piaget (1952, 1985) (cited in Andrews & Smith, 2011; McDevitt et al., 2013; Treiman & Bourassa, 2000). What is evident, is the assertion that writing skills develop at a slightly slower rate than reading skills, particularly when a child is struggling to attain appropriate literacy skills (Andrews & Smith, 2011; Juzwik et al., 2006) and that there is a need for instruction in writing to emphasise to children why it is important to not only learn to write, but why people write; because it is the way we convey meaning in the same way that oral language conveys meaning (Andrews & Smith, 2011).

There has however been one alternative model of writing, similar to the simple view of reading, that was first developed in the early 1990s (Berninger et al., 1994; Berninger et al., 1996; Berninger et al., 1999; Berninger et al., 2002) that is known as the simple view of writing. In this model, writing is viewed as composing or composition, where language skills (ideas that are generated) are translated into text through transcription skills (knowledge of orthographic symbols, spelling and handwriting skills). At any point of the process, the generation of text can be interferred with by a writers ability to compose (generate ideas), or translate (transcription skills). More recent research (Jones & Berninger, 2016) has focused on specific strategies that children use to facilitate composition and/or translation skills, and the impact of specific skills such as how oral language affects composition ability and handwriting skills can impact on the transcription process. Thus, over the last two decades, the simple view of writing has formed a base that has been able to be expanded on, as more research into the writing process has been undertaken.

Writing in the school context is crucial and highly valued, as it is used as a means of conveying rules, directions and aims, and later as the most common means of assessment (Andrews & Smith, 2011), although some researchers have found that writing skills, such as spelling can be predictors of reading ability (Craig, 2003; Jenkins et al., 2004).

2.2 Predictors of Reading and Writing

Underpinning the theories of reading and writing acquisition, is research pertaining to specific skills, characteristics and conditions, that can be considered predictors of a learner's ability to attain literacy skills. Five critical components in the developmental process of learning to read independently, have been recognised for almost two decades now (Konza, 2014). They are:

i. Phonological awareness
ii. Phonics (including letter-sound knowledge)
iii. Fluency
iv. Vocabulary knowledge
v. Comprehension.

There are different views, (see for example Gillon & McNeill, 2010; Nation & Hulme, 1997; Oakhill & Cain, 2012) as to which of these components are most important as in the teaching and predicting of reading outcomes. Konza (2014) also contends that oral language is crucial to the ability to attain literacy skills.

2.2.1 Phonological awareness. Phonological awareness refers to an ability to hear and focus on the sounds of spoken language. There is no requirement to understand or gain meaning from the sounds, or to be able to interpret the sounds orthographically, by writing them down. Phonological awareness, is not one particular skill, but is a set of different skills or abilities, that can be utilised by a learner prior to and during the course of learning to read and write. These individual skills are: syllable knowledge (segmentation), rhyme recognition, onset-rime knowledge, and phonemic awareness (phonemes are the individual sounds that make up words, thus phonemic awareness as defined for the purposes of this thesis, is the

ability to consciously delete, substitute and transpose phonemes in words) (Gillon, 2004; Goswami, 2005; Hall & Moats, 1999; Pressley, 2015). Hall & Moats (1999) contend that children typically learn these phonological awareness skills in a specific order, between the ages of around three to eight years of age. Thus, three year olds can typically recognise rhyming word patterns and alliterations, moving through the skills, until by eight years of age they segment and delete phoneme clusters. Table 2.1 outlines the process as defined by Hall & Moats (1999).

Table 2.1 Typical phonological awareness acquisition by age and skill.

Age typically mastered	**Skill**
3years	• recitation of rhymes • rhyming by pattern • alliteration
4 years	• syllable counting (50% by age 4)
5 years	• Syllable counting (90% by age 5 • Counting phonemes (< 50% by age 5)
6 years	• Initial consonant matching • Blending 2-3 phonemes • Counting phonemes (70% by age 6) • Rhyme identification • Onset-rime division
7 years	• Blending 3 phonemes • Segmenting 3-4 phonemes (blends) • Phonetic spelling • Phoneme deletion (taking a sound out of a word and recombining the sounds)
8 years	• Consonant cluster segmentation • Deletion within clusters (separating the /s/ and /t/ in /st/)

While Hall & Moats (1999) have aligned these phonological skills with specific ages,

there are other researchers who appear to support this with the assertion that phonological skills are on a continuim, that moves from syllable knowledge, to rhyme, onset/rime then phonemic knowledge, and that children learn these skills in a progression (Bryant & Goswami, 1987; Goswami, 1991; Juel & Minden-Cupp, 2000; Nation & Hulme, 1997; Trieman, 1987). There is the contention, by many researchers, that of all the skills that comprise phonological awareness, phonemic awareness is the most vital for reading development and for the early prediction of reading success and or difficulties (Adams, 1990; Adams et al., 1998; Castles et al., 2009; Ehri et al., 2001; Gillon, 2004; Gillon & McNeill, 2010; Goswami, 2002; Nation & Hulme, 1997; Savage et al., 2003; Tunmer et al., 2015; Torgesen et al., 1997).

Given that phonemic awareness is the awareness of, and the ability to manipulate specific sounds in spoken words, there are certain skills within this awareness that must be mastered, and as can be seen in Table 2.1, this mastery occurs at different ages, in the typically developing child. There are six individual skills (beyond recognising phonemes) that have been defined by Roper (1984) as:

i. phoneme blending (c-a-t means cat)
ii. phoneme segmenting (what are the three sounds you can hear in cat)
iii. deletion of first phoneme (say cat without the /c/)
iv. deletion of final phoneme (say cat without the /t/)
v. substitution of first phoneme (say cat, but instead of /c/ at the start say /b/)
vi. substitution of final phoneme (say cat, but instead of /t/ at the end say /b/)

Castles et al. (2009) propose that the reason phonemic awareness has been purported to be vital in reading and writing development, is that it there is a strong correlation between phonemic awareness and letter sound knowledge. Thus, without the ability to hear and

manipulate the phonemes in words, it would appear, that children may encounter difficulties moving to the next important component for reading and spelling success, letter-sound knowledge, or phonics knowledge. This research suggests that instruction in phonemic awareness is the most important phonological awareness skill that can assist in early literacy skill acquisition.

Other research, (for example Bradley & Bryant, 1985; Goswami, 1990; Juel & Minden-Cupp, 2000; Wise et al., 2007) suggests that phonemic awareness occurs following the acquisition of onset/rime segmenting and blending in a sequential manner, thus instruction in onset/rime knowledge, can lead to facilitation of improvement in reading and writing, and describe this process as reading by analogy (Pressley, 2015). Therefore there would appear to be a division within the body of research into the effectiveness, or not of phonological awareness as a predictor and requirement for literacy success, and those who contend phonemic awareness or onset/rime ability and instruction to be the prime indicator for success. Indeed earlier research by Castles & Coltheart (2004), that involved a meta-analysis of prior research into the mportance of phonological awareness and specifically phonemic awareness as a predictor of literacy outcomes, even suggests that phonemic awareness occurs as a result of alphabet letter/sound knowledge and phonics, rather than as a precursor to ahlphabet letter/sound knowledge.

Researchers who contend that onset/rime knowledge and instruction can predict and lead to literacy success, suggest that children use this knowledge to decode by analogy, thus knowledge of ‘c-ar/st-ar/f-ar’ can assist children to decode words such as ‘carpet’ more quickly than sounding out individual letters, using letter/sound correspondences, which are normally taught through some form of phonics instruction.

2.2.2 Phonics (including letter–sound knowledge). Phonics knowledge, including letter-sound knowledge can be defined as the ability to transfer the 44 phonemes (sounds),

and the 26 alphabet letters/sounds, in to their written form, known as graphemes, for spelling and vice versa for reading. In reading, the specific skill is known as decoding, and involves recognising the letters or groups of letters in individual words, then attributing their specific sound to enable words to be 'decoded' or 'sounded out'. In spelling, the opposite process occurs, whereby children wanting to write a specific word, will sound out the phonemes, then write the specific graphemes for those sounds, to create a word. This is known as encoding. Without letter-sound and phoneme/grapheme knowledge, the process of early reading and writing becomes very difficult for some children.

Explicit, direct and systematic teaching of phonics, separated from the act of reading or writing is known as 'synthetic phonics' and was discussed as early as 1912 and 1926 according to Chall (1967). This method of phonics instruction is advocated by researchers such as Adams, (1990), Tunmer et al., (2015), National Reading Panel, (2000), as a requirement for children who are struggling to read and write, to enable them to understand the alphabetic principle of Standard English, while others such as Snow & Juel (2005) contend that it is beneficial for all beginning readers and crucial for others, such as those who are at risk or are struggling.

Another method of phonics instruction, also identified by Chall (1967), and identified as being used as far back as 1926, is intrinsic (also known as analytic or implicit) phonics. This occurs when teachers instruct in the analysis of sounds in known words, in the context of whole text reading. This method is the preferred manner of teaching phonics for advocates of the 'whole-language' or constructivist theory of reading and writing. Numerous scientific research studies have found that synthetic phonics instruction is more beneficial for beginning readers, particularly those who may be at risk, and that explicit teaching of phonics will benefit all readers, while implicit phonics will only be useful to those who already have sound word level skills (phonemic awareness and alphabet knowledge) (Johnston & Watson,

2005).

Thus far, the skills discussed have been those considered crucial to decoding words, which is vital in the early stages of reading development (Oakhill & Cain, 2012). Accurate and efficient decoding contribute to the fluency with which a person reads, hence fluency is considered to be a contributing factor to successful reading for meaning, as it promotes reading comprehension (Oakhill & Cain, 2012; Pressley, 2015; Vellutino et al., 2007).

2.2.3 Fluency. Fluency is not merely the speed with which a person reads, but also the degree of prosody used (Pressley, 2015). Prosodic reading involves expression, timing, phrasing and emphasis and intonation of the reader's voice when they are reading out aloud. Thus, when these characteristics are present, there is an indication that word recognition is automatic, allowing the reader to use knowledge of vocabulary, syntax and semantics, to make meaning from the text, and read it fluently and with prosody. Two factors that have been shown to influence fluency and are considered to be predictors of reading ability are Rapid Automatised Naming (RAN) of objects, colours or numbers (Clarke et al., 2005; Georgiou et al., 2008; Poulsen et al., 2015; Wagner et al., 1994), and the ability to identify individual words out of context (Oakhill & Cain, 2012; Vellutino et al., 2007). Nation & Snowling (1998) found that the ability to learn and recognise individual words was strongly correlated with a child's vocabulary knowledge. Rapid Automatised Naming is not usually recognised as a predictor of reading accuracy, as with skills such as letter knowledge and phonological awareness, but with reading fluency (Poulsen et al., 2012). However, a number of researchers have endeavoured to explain the correlation between RAN and fluency. For example, Wagner et al., (1993) proposed that RAN was related to phonological awareness ability, as it assesses the ability to retrieve phonological codes from a persons long-term memory. Similarly, Bowey et al., (2005) contend that RAN is a measure of letter knowledge,

while Manis et al., (1999, 2000) proposed that RAN measured the ability to learn symbol/sound relationships. Thus, with correlations such as these, it may be that RAN is a product of these skills, and therefore these word level skills actually influence fluency as well as accuracy. This was investigated by Poulsen et al. (2012), who contend that RAN is a strong predictor of reading fluency because of these cognitive components that are correlated. They also caution that any intervention that may focus on RAN as a means to improving reading fluency, would not necessarily be beneficial without the underpinning cognitive factors being further understood.

Reading or naming of words out of context (word reading) has been found to be influenced by early phonological awareness skills (Ehri, 2014). While other research shows that word reading influences comprehension of texts due to the relationship between word recognition and word comprehension (Perfetti & Stafura, 2014). It would seem then, that if a reader can quickly recognise and say a word, and that they are assisted in doing so due to an understanding of the meaning of the word, that each of the words they are able to read out of context, could then be part of their vocabulary, as far as knowledge is concerned, if not part of their regular productive vocabulary.

2.2.4 Vocabulary knowledge. Vocabulary knowledge has been determined to be a predictor of reading comprehension, (Cain & Parrila, 2014; Oakhill & Cain, 2012), particularly in younger or beginning readers. Thus, given the correlation between oral language and vocabulary knowledge (Roth et al., 2002) it would appear that the inter-relational nature of the earlier, word level skill and those pertaining to comprehension and fluency, would support the Convergent Skills Model of Reading Development (Vellutino et al, 2007), as an elaboration of rather than opposed to the Simple View of Reading (Gough & Tunmer, 1986). When all factors are taken together, comprehension of the text is achieved. Vocabulary knowledge is considered to be both a product of the environment and personal

background that a child brings to their reading (Cain & Parrila, 2014), as well as a product of their text comprehension skills (Perfetti & Stafura, 2014).

2.2.5 Comprehension. Comprehension does not simply mean the understanding of the written word. In the Simple View of reading, comprehension refers to oral language comprehension, thus comprehending that which is heard (listening comprehension) and read (reading comprehension). Both forms of comprehension can be influenced by vocabulary knowledge, background knowledge (of the situation at hand or in the text), structural knowledge (of texts) (Cain & Oakhill, 2012; Dymock & Nicholson, 1999), syntactical knowledge (written and spoken grammar). Thus, once again, it suggests that many of the factors that influence a child or person's ability to read to make meaning from a text can and possibly are influenced by early and ongoing experiences that shape their phonological awareness, vocabulary, grammatical knowledge, background knowledge and listening comprehension. It would therefore appear, that oral language plays an important part in shaping all of these skills, and is therefore a vital predictor of literacy success.

Additionally, oral language, as a form of prior knowledge, impacts on children's reading acquisition. Roth et.al. (2002) argue that because of the connection between oral language and reading, educators need to strongly consider a range of variables that may be impacting on the learner, such as ethnicity, gender, socioeconomic status (SES) as well as their home/family literacy environment.

Some of these variables, particularly home/family literacy and socioeconomic status play a vital role in shaping the oral language and speech patterns of many struggling learners (Charity et al., 2004; Godley et al., 2006; Hagemann, 2001; Peltier, 2010; Hollie, 2001). The learner may have received adequate, or more than adequate first tier teaching, yet is not making expected progress then moves on to second tier teaching, such as Reading Recovery (Clay, 1993). If this is not successful then the learner requires further intervention through a

third tier, or remediation type interventions.

2.3 Oral language

Because (oral) language is a rule based communication system that exists to convey meaning and information (Honig, 2007), the explicit sounds, social norms and expectations, control, structure and understanding begin in the early years of a child's life and are learned or gleaned through interactions with their parents, caregivers, family and friends. These aspects of language are described as domains (Honig, 2007) and can be defined as phonology, syntax, semantics, morphology and pragmatics. Having previously acknowledged the importance of oral language to literacy acquisition (Roth et al., 2002) when one or more of these domains are influenced in a manner that disadvantages a learner, it can subsequently influence the language knowledge that the learner brings to their literacy learning experience. For example, some children are 'referential' in their language learning, in that they learn many nouns from a young age while others are 'expressive' whereby they learn common expressions, without real knowledge of what they mean. Thus, each of these types of learners will experience different situations as they begin to read. Another example is when children hear and speak (English) that contains sounds and phrases that are different from those used and expected in academic settings. These are known as dialect differences and can be heard in most English speaking countries throughout the world (Honig, 2007).

This particular difference has been observed, through classroom teaching experience in New Zealand schools. This includes speech pattern differences that are not just evident in individual children's speech, but that are embedded in the families and parts of society that they associate and live among. These speech patterns and dialect differences are discussed in Chapter Three.

Given the scope of influences that both predict and impact on a child's ability to

acquire appropriate literacy levels, there have been numerous measures developed to assist children who are lacking certain literacy or literacy related skills. When general classroom teaching appears to not be enough, particularly when the teaching may be underpinned by the constructivist approach for some individuals, specific interventions are required.

2.4 Interventions: Current prevention, intervention and remediation programmes.

In their research Making a Case for Prevention in Education, Askew et al. (2003), discuss three levels of literacy tuition that they refer to as 'primary prevention', 'secondary prevention' and 'tertiary prevention'. Primary prevention is likened to an inoculation so that "in schools, the equivalent to an inoculation is classroom instruction" (p.45), but they also note that this first teaching needs to be effective, and that even with the best trained teachers, some children will need secondary prevention. They describe secondary prevention as being intensive daily one-to-one tutoring, such as children receive in the Success for All (Slavin et al., 1992, 1995) and in Reading Recovery (Clay, 1993).

Denton et al. (2006) also discuss a Three-tiered Intervention model for reading instruction, whereby the first tier is an effective classroom programme. On the other hand Fuchs et al. (2001) advocate the Peer -Assisted Learning Strategies (PALS) as a classroom based first tier programme to reduce the number of children who require the assistance of second or ultimately third tier interventions.

Secondary prevention or second tier interventions are early interventions. For example, Askew et al. (2003) examine Reading Recovery (Clay, 1993) as an example of a successful secondary prevention, dramatically lowering the number of students requiring tertiary prevention. However, there are some children who have persistent reading difficulties and do require the third level of prevention, or remediation.

In New Zealand, it is possible to relate Askew et al.'s (2002), Denton et al.'s (2006)

and Fuchs et al.'s (2001) three levels of instruction to the systems we have in place in our schools. To provide a balanced approach to reading, as advocated by Pressley (2006), the New Zealand curriculum recommends teachers provide a wide variety of activities and experiences. Some appear to support Goodman's (1986) "Top-Down" processes, such as whole text reading and others more closely align with Gough's (1984) "Bottom-Up" processes, such as the explicit teaching of phonics.

The New Zealand Curriculum, Literacy Learning Progressions, and National Standards documents promote a balanced literacy programme. This entails the use of a variety of teaching strategies, to facilitate "the knowledge, skills and attitudes that students draw on in order to meet the reading and writing demands of the New Zealand Curriculum" (Ministry of Education, 2010, p. 4.). This may include direct acts of teaching (such as phonics training, letter sound knowledge), whole text reading, with teacher scaffolding, teacher modelling of writing, language experience (whole class activities to encourage writing), recognition of children's differing literacies and the promotion of the "language used as the medium of instruction" (Ministry of Education, 2010, p.9.). Thus, the intention is to encompass all learning styles and ensure success for most children. Therefore effective first teaching can become prevention. To understand why all of these activities are employed, it is firstly important to understand how children learn to read.

2.4.1 Current New Zealand programmes. The New Zealand Curriculum: Reading and Writing Standards for years 1-8 (Ministry of Education, 2009) states that "the standards for reading and writing establish the level of literacy expertise that can reasonably be expected of most students by the end of each period or year of schooling"(p.8). They do, however, also admit that "students start at different points and progress at different rates. That is why, when interpreting achievement, it is important to consider both the student's rate of progress and the expected standard" (p.8).

Teachers, when measuring whether or not a student has met, is above, below, or well below the standard for each year, can draw on recommended testing measures such as Running Record of Oral Reading, (Clay, 1993), Supplementary Test of Achievement in Reading (STAR), (Elley, 2001) Data, Progressive Achievement Tests (PAT) (Darr et al., 2008), Assessment Tools for Teaching and Learning (asTTle), (Ministry of Education, 2011) tests as well as through observations. From this, teachers are deemed to make an Overall Teacher Judgement (OTJ), as to where the child stands in relation to the standard. For example, at the end of one year of schooling, when the child has just turned six years of age, they are expected to be reading texts at the "Ready to Read" Green level. "The Ready to Read series is the core instructional reading series for New Zealand students in years 1-3" (Ministry of Education, 2009, p.9). However, amongst the literature published by the Ministry of Education, available to teachers, there appears to be little mention made of how to provide assistance for struggling readers, that meets each child's personal learning and cultural characteristics.

Improving learning outcomes for both Pasifika (Pasifika is a term of convenience used to encompass a diverse range of peoples from the South Pacific region now living in New Zealand, who have strong family and cultural connections to their Pacific Island countries of origin) and New Zealand Māori (Indigenous people of New Zealand) students continues to be targeted by the New Zealand Ministry of Education (see, for example, Ministry of Education, 2003, 2007, 2009; Ministry of Pacific Island Affairs, 1999). New Zealand Māori (the indigenous people of New Zealand) and Pasifika students have been overall underachieving in reading and writing (Alton-Lee, 2003; Crooks & Flockton, 2006; Wylie & Hodgen, 2007) . Pasifika populations comprise recently arrived immigrants and second- or third-generation New Zealand-born Pasifika peoples. Also, many Pasifika students have mixed cultural heritages crossing a range of ethnicities. Of further concern is that New

Zealand, relative to other higher performing countries, has a notable sized group of 10 year old students who are poor readers (Chamberlain, 2007). In particular, it is frequently cited that a 'tail' of approximately 20 per cent of New Zealand students are underachieving in reading (Chamberlain, 2007a; Hattie, 2003; Ministry of Social Development, 2004; New Zealand Parliament, 2008) of which Pasifika and New Zealand Māori students form a substantive group.

The New Zealand Government has a group specifically formed to target achievement for all New Zealand students, 'The Ministerial Cross-Sector Forum on Raising Achievement'. This group is responsible for setting achievement goals for all students including the New Zealand Māori and Pasifika students, with their focus being on 'the importance of quality data in raising achievement, and improving teaching practice with a focus on priority learners' (Ministry of Education, 2015).

Evidence, from observation and from interactions with other classroom teachers, both in the North Island and the South Island of New Zealand, shows that despite many goals being set, there is still a level of underachievement that remains overrepresented by New Zealand Māori and Pasifika students.

It is however, important to consider whether or not current programmes, within the class room and through additional interventions such as Reading Recovery, are working for these children? And whether or not, consideration of students' dialectical differences can help remediate reading and writing difficulties (Charity et al., 2004).

As previously mentioned, Reading Recovery is considered to be a second tier intervention. Reading Recovery is a programme developed by New Zealand literacy expert Marie Clay (1993), which has been widely implemented not only throughout New Zealand schools, but also in the USA, Australia, and adapted for Spanish speaking learners as well. Reading Recovery provided each learner 30 minutes a day of one-to-one tuition with a

trained Reading Recovery teacher. Students participate in reading and writing activities each day and remain in the programme until they have reached the level of their peers, but for no longer than 20 weeks. Previous research (Iverson &Tunmer, 1993; Shanahan & Barr, 1995; Tunmer & Chapman, 2004) and data (Annand & Bennie, 2004) has shown that it does not work for all those who enter the programme. Subsequently, after their allotted time has elapsed, these children move on to third tier programmes.

Looking at possible "third tier" interventions, or remediations available in New Zealand, there doesn't seem to be a common one, as with the second tier Reading Recovery Programme. Children who are referred on for more assistance after unsuccessfully receiving Reading Recovery, are either placed in withdrawal programmes with Resource Teachers of Literacy (RT Lit's), given teacher aide time either within or out of the classroom, take part in other programmes such as *Pause, Prompt, Praise* (McNaughton, Glynn & Robinson, 1987), SevenPlus (Marriot, 2015) or Sharp Reading (Ayrey & Parker, 2016) . There may also be a variety of programmes designed by individual schools, or designed by researchers, such as Gillon's (2004) phonological processing programme, that are being implemented in New Zealand schools, but to ascertain this, would require further research.

At this point, it is important to note, that while there are three levels or tiers of literacy teaching (prevention, intervention and remediation), available to children in New Zealand, there does not seem to be any consideration given to the other literacies, specifically dialectic differences or background variables that impact on children, alongside their cognitive variables.

2.5 Personal experiences

Experience as a classroom teacher, as well as in the role of a Supplementary Support Teacher (tutoring children on a one-to-one basis in literacy and numeracy) provided first

hand evidence as to instances of speech differences and the difficulties these produced. For example, this was highlighted in a personal interaction with a six year-old struggling reader in a school recently. The boy, when confronted with the word *something* during a guided reading lesson, stopped and sounded out every letter carefully, but could not piece them together to accurately pronounce the word. After allowing the child time to attempt to construct the word, the child was finally told that the word was *something*. His reaction was that he did not know that word or what it meant. The teacher thought for a time and said that he might know it as *sumfink*. The boy instantly recognised this word and was able to continue reading and making sense of the text. Had he not been given the comparison, his ability to make sense of the text would have continued to be compromised. This interaction is a small indication of the possible difficulties that children with dialect differences could be facing when they are expected to understand and perform reading and writing tasks in Standard English. If this situation had been part of a testing procedure rather than a learning context, it would have negatively influenced the outcome for this child.

Instances such as these influenced the decision to undertake this research and facilitated the further investigation of literature pertaining to dialects, dialect density and the impact of dialects on literacy acquisition, which are reported on in Chapter Three.

Chapter Three

Dialect Differences and the New Zealand Situation

3.1 Introduction

As discussed in Chapter Two, oral language plays a vital role in learning to read and write, thus there is the contention that speakers of non-standard English, or dialects of English may experience difficulties in attaining literacy skills in Standard English, in the same way that learners with poor oral language skills do (Charity et al., 2004; Hagemann, 2001; Malcolm & Konigsberg, 2007; Pearce, et al., 2013; Peltier, 2010) To adequately assess the possible influences of non-standard English or dialects of English it is imperative to define exactly what dialects of English are. English dialects are considered to be legitimate varieties of English that reflect the culture and nature of ethnic or aboriginal groups. There is evidence that they have their own language structures and speech patterns, combined with Standard English structures and patterns. They can have complex grammatical and syntactical systems that differ from Standard English, such as the use of plurals, possessions and questions. Dialects are not considered to be separate languages from English, rather they are social and linguistic variations of Standard English, that can be considered a first or home language for some learners and are found in most English-speaking countries worldwide (Eades, 2013; Hagemann, 2001; Ivy & Masterson, 2011; Peltier, 2010; Siegel, 2010; Terry & Connor, 2012).

This chapter explores dialects of English around the world as well as within New Zealand, with possible implications for literacy learning in Standard English, for speakers of non-standard English.

3.1.1 Worldwide situation. Charity et al. (2004), noted that; dialect differences could lead to interference and confusion as children attempt to discover and learn regular

spelling-sound correspondences, to identify the oral counterparts of letter strings than can be sounded out, and to comprehend syntactic and semantic relationships in text.

Other research by Wilcox & Anderson (1998), with children in the United States of America has determined that there are specific differences in speech sounds between African American Vernacular English (AAVE) and Standard English speakers, and that these productive differences impact on children's writing ability from kindergarten through to eighth grade, where it appears that many native AAVE speakers acquire the ability to code-switch, thereby creating written work that adheres to the conventions of Standard English.

Similarly, in her study of Aboriginal children in Canada, Peltier (2010), found that children who spoke a dialect that was a combination of English and their native language, were firstly disadvantaged by the Standard English assessment measures, and secondly, by the assumptions that teachers made with regard to their cognitive ability, based on their "low scores in standardised literacy tests" (Peltier, 2010, p. 127). In New Zealand, the implementation of National Standards for all primary schools has meant that all children are being regularly tested to compare their progress against the National Standards requirements. This raises the issue that, there is a possibility that the children who are deemed as underachievers, are being assessed by measures that are designed to be administered with children who are speakers of Standard or School English. Their cultural and dialectal differences may mean that the tests are not truly effective in establishing their true ability or potential.

Researchers such as Connell (2009), Connor et al. (2009), Ford (2013), Klenowski (2009), Macfarlane (2007, 2010), and Maclagan et al. (2008), Wigglesworth et al. (2015) found that tests used to measure students' ability were based around a curriculum that was essentially mono-cultural. Thus, students for whom Standard English was not their first

language, were disadvantaged in the testing process. Furthermore, these researchers Connell (2009), Connor et al. (2009), Ford (2013), Klenowski (2009), Macfarlane (2007, 2010), and Maclagan et al. (2008), Wigglesworth et al. (2015) believe that the reason for testing should be beneficial to the student and that it should inherently be derived from the student's own language and socio-cultural background. Testing measures and their importance are discussed in section 3.2 of this chapter.

While it appears that there is not a large body of research pertaining to New Zealand dialects, other dialects worldwide have and continue to be the frequent focus of educational and linguistic research, for example, the African American dialect referred to as African American English (AAE), African American Vernacular English (AAVE), and previously, Black English and Ebonics.

3.1.1.1 African American English. African American English has been the subject of research, discussion and sometimes controversy for six decades. Language and reading ability in African American children was investigated as early as 1969 by Baratz (Baratz 1969a, 1969b), although, at that time, it was considered to be a poor version of Standard English, as opposed to a dialect, which it is considered now. Labov (1970, 1973) studied the linguistic systems that were evident in what he referred to as 'Black English vernacular', finding that they were not random and were governed by social groups, particularly within adolescent social groupings.

Phonological and morphosyntactical features of African American English have been documented by researchers from around this time, and are still the subject of documentation in more recent research (Oetting & McDonald, 2002; Terry & Conner, 2010; Washington & Craig, 1994; Washington & Thomas-Tate, 2009; Thomas; 2007; Thompson et al., 2004). While Washington & Thomas-Tate define African American English as a rule-governed dialect used by most African American people in the United States, other researchers such as

Thomas (2007) contend that African American English is spoken by some African American People, while others speak the non-standard dialect known as African American Vernacular English. Thomas differentiates between the two dialects by suggesting that African American Vernacular English is spoken by working-class African American people while African American English is spoken by all African American people including middle class African Americans. Having made this suggestion he discusses the differences that he contends have occurred in the development of African American Vernacular and African American English, with their origins embedded in the Southern states of the United States of America and the slave society and migration North and West after World War One and Two.

Washington & Thomas-Tate (2009) also refer to African American English as being the dialect spoken by all African American people, without separating the dialect in to two specific forms (African American Vernacular English and African American English). They discuss the evolution of African American English as having its roots in early British dialects that were encountered when early settlers from Brittan arrived in America.

As mentioned earlier, African American English (formerly Black English or Ebonics (Baldwin, 1997), having its roots in a discriminatory slave society, helped perpetuate the deficit hypothesis which see African American English as inferior to Standard English (Washington & Thomas-Tate, 2009).

No longer considered a deficit language, as discussed by Washington & Thomas-Tate (2009), African American English was able to be defined with the difference hypothesis, which allowed it to be embraced as a particular dialect of English, that equates to bilingualism, for those that speak it and also have oral and written literacy skills in Standard English (Jonsberg, 2001).

Despite apparent variations in the names for the African American Non-Standard English, many of the phonological and morphosyntactic features that have been documented

by a variety of researchers seem to be consistent. To enable comparisons to be made between possible New Zealand dialects of Non-standard English and African American English and based on the research of Charity et al. (2004), Ivy & Masterson, (1998), Oetting & McDonald (2002), Terry & Connor (2010) common phonological features has been compiled, as shown in Table 3.1.

Table 3.1 Common Phonological features of African American English.

Phonological type and definition	**Specific example of phonological type**	
1. Postvocalic consonant reduction (omission of single consonant phonemes that follow vowels)	**plate** Pronouncing plate as pla	
2. Consonant cluster reduction (deletion of phonemes from consonant clusters)	**World** Pronouncing world as worl	
3. Devoicing final consonants (voiceless consonants substitute for voiced after the vowel)	**Eyes** Pronouncing eyes as *ice*	
4. Substitutions for th (a variable substitution of /t, d, f, v/ in pre/inter and post vocalic positions)	**Bath** Pronounced as *baf* **something** Pronounced as *somefing*	**this** pronounced as *dis* **them** pronounced as *vem*
5. Dropping /g/ (substituting /n/ for ing in final word positions)	**Going** Pronounced as *goin*	
6. Consonant cluster movement (reversal of phonemes within a cluster)	**Ask** Pronounced as *aks*	
7. L-lessness (velarized l) (omission of final /l/ after a vowel)	**Feel** Pronounced as *feo*	
8. Syllable addition (Adding a syllable to a word)	**Forest** Pronounced as *forestis*	
9 Syllable deletion (Deletion of an unstressed syllable in a word)	**Because** Pronounced as *cos*	
10. Monophthongization of dipthongs (neutralising a dipthong)	**Our** Pronounced as *ar*	

3.1.1.2 Australian Aboriginal English. As mentioned in the introduction to this thesis, Aboriginal English is a post-colonial dialectal form of English, which is widely

spoken by the Indigenous people of Australia. Although there seems to be many varieties of Aboriginal English, the research has shown that it is a dialect of English that has systematic, rule-governed and non-random differences in grammar and syntax from standard English and Australian English (Eades, 1993; Groome, 1995; Harkins, 1994; Kortmann et al., 2013; Malcolm & Kaldor, 1991; Malcolm, 2013; Pearce et al., 2014; Wigglesworth, 2011).

Malcolm (2013) describes some geographical differences in the features of Aboriginal English throughout Australia, while his earlier research with Kaldor (Kaldor & Malcolm 1991) described Aboriginal English as being on a continuum, with some examples close to Standard English ranging to other examples closer to Kriol, with the heavier or more Kriol influenced dialects more prevalent in remote rural areas of Australia, such as Northern Territories. Kriol is the name given to the specific Aboriginal English dialect spoken in the Northern Territories, which has been defined as a creole by researchers such as Eades (1993), Sandefur (1986) and Seigel (1999). It should be noted, that Kriol or creole languages are considered to be languages that have evolved from pidgin (a communication system which combined an indigenous language combined with English, to form a valid form of communication), to become a mother-tongue for children as they are growing up (Sandefur, 1986).

In his comparison with other dialects of English, Malcolm (2013) also contends that there are shared features between Aboriginal English and Southwest English (from the United Kingdom), Irish English, Australian English, Australian Vernacular English (a variety of Australian English particularly seen in rural or working-class Australian men) and Roper River and Torres Strait creoles. The largest overlap being, between the creoles and Aboriginal English. He subsequently concludes that this overlap indicates that Aboriginal English is not an informal, uneducated or imperfect form of Standard English as previously assumed by much of the population (Kaldor & Malcolm, 1991).

There are many grammatical features documented in the research, but as grammar is not the intended focus of this study, just some of these are shown in Table 3.2.

Table 3.2 Common grammatical features of Aboriginal English.

Grammatical type and definition	**Specific example of grammatical type**
1. Pronouns (Alternate forms for 2 people pronoun) (generalised 3 subject pronoun)	 *Youse/youfellas* *e* for he/she/it
2. Noun phrase (optional plural marking) (different count/non/count distinctions)	 *Two sister* *Woods* for bits of wood
3. Tense and aspect (past tense/anterior marker *been*)	 *Kitty bin blow dat candle out* (note use of /th/ substitution for /d/ as in AAE)
4. Negation (multiple negation/negative concord)	 *They not give us nothing*
6. Relativisation (relitiviser what)	 *I do all the things what I want to do*

Given that Aboriginal English has been compared to Australian English in this research, it is pertinent to define and describe Australian English.

3.1.1.3 Australian English. Australian English has been identified and studied since the 1940s, although there appears to be conflicting theories as to the evolution and development of this English dialect. One theory contends that the Australian English that is recognised today, with its characteristic phonology, morphology, grammar, discourse and lexicon, grew with the first generation of native-born Australians and is known as the Sydney mixing bowl theory (Bernard, 1969; Collins, 2012; Trudgill, 1986). Other theories purport that Australian English was either an adaptation of London English by speakers of other dialects (Gunn, 1992; Hammarstrom, 1980) or that it grew from the wide varieties of

socioeconomic differences in the early days of Australian colonisation (Horvath, 1985).

Whether or not Australian English evolved via one or even a combination of these theories is not in contention here. Rather, it is of interest to note the characteristics of Autralian English that have been documented, allowing some possible comparisons with the dialect(s) noted in observations in New Zealand schools, as well as those in the literature pertaining to New Zealand dialects.

Australian English has historically been described as being on a continuum or spectrum from which three main markers have been identified. These are cultivated, general and broad Australian English (Collins, 2012; Mitchell & Dellbridge, 1965). At this stage of research in to Australian English, this spectrum referred mainly to the [accent] or pronunciation of vowels by speakers of Australian English. More recent research has subsequently identified, as the dialect has evolved, many features beyond vowel pronunciation that characterise Australian English and identify it as different from New Zealand, British or American English. One of these main features, is the realisation (making the sound a shorter rather than longer sound) of the phoneme /a:/ to an /æ/ for example the pronunciation of the word *dance* in Australian English. This particular feature has been one that has been described as a determinant of social class, with the production of the vowel sound closer to the /a:/ being viewed as being from a higher class (Kuiper & Allen, 2010).

Another phonological feature of Australian English is the merging of the pronunciation of the two vowels / i:/ and /ɪ/, as in the words *deal* and *dill.* Many of the features that are recognized as being typical of Australian English are not phonological, Table 3.3 describes a number of other defining characteristics of Australian English.

Table 3.3 Common features of Australian English.

Morphological type and definition	**Specific example of morphological type**
1. Hypocoristic suffixation (addition of – ie, considered a friendly connotation) (addition of – o, considered a roughness connotation)	*Tassie* for Tasmania *Journo* for Journalist
Grammatical type and definition	**Specific example of grammatical type**
2. negative auxiliary (substitution of don't for doesn't)	It *don't* fit our plans.
3. Negation (multiple negation/negative concord)	I never said *nothing*
4. Pronouns (Alternate forms for 2pl pronoun)	*Youse* for you
Phonological type and definition	**Specific example of phonological type**
5. Dropping /g/ (substituting /n/ for ing in final word positions) (substituting ing for ink)	**Going** Pronounced as *goin* Somethink for something
6. Palatalisation (pronouncing consonants /t d s z/ with a /j/)	Assume said as *asjume*
Discourse type and definition	**Specific example of discourse type**
7. Final particle but (finishing a sentence with but as a final rather than hanging particle)	It was a good game *but*

Table 3.3 shows a small sample of features of Australian English, some are shared with African American English and Aboriginal English, while others are unique to Australian English.

3.1.1.4 Canadian First Nations English. It has been documented that Canada has somewhere between 50 and 60 First Nation or indigenous languages (Ball & Bernhardt, 2008; Peltier, 2010). Colonisation and assimilation have led to the breakdown of traditional family cultures and heritages and also, to the loss of many of these languages as first languages. More recently, (Ball & Bernhardt, 2008), there have been efforts to revitalize these languages. In parallel, there is the belief that preserving the First Nations dialects of English that have evolved, may be a way to re-ignite some of the extinct indigenous languages.

In a similar manner to the evolution of Australian Aboriginal English, First Nations English is also thought to have developed from the pidgins (languages developed for verbal communication) and creoles (grammatically more complex versions than the pidgin) (Ball & Bernhardt, 2008), in the same way that Australian Aboriginal English has developed. Having many more First Nations languages than Australia, Canada now has many First Nations dialects of English.

While there is not the plethora of research on First Nations English dialects as there is on African American English, there have been some published studies that have identified various characteristics of a small number of First Nations dialects of English. Interestingly, many of the characteristics cited by Ball & Bernhardt (2008) and Peltier (2010) are similar to those documented for Australian Aboriginal English and African American English. These are displayed in Table 3. 4

Table 3.4 Common features of First Nations English dialects.

Morphological type and definition	**Specific example of morphological type**	
1. Pronoun usage (development of innovative plural pronouns and pronoun constrctions) (nominative and accusative pronouns used as possessives)	(i) *Theirself* or *theirselves* for themself/themselves. (ii) *Them* Fred's having a party tonight *Him* bouncing that ball on *him* nose	
Grammatical type and definition	**Specific example of grammatical type**	
2. Copular deletion (deletion of *be* or auxiliaries such as have)	*They no father*	
3. Negation (multiple negation/negative concord)	I never said *nothing*	
Phonological type and definition	**Specific example of phonological type**	
4. Dropping /g/ (substituting /n/ for ing in final word positions)	**Going** Pronounced as *goin*	
5. Substitutions for th (a variable substitution of /t, d, f, v/ in pre/inter and post-vocalic positions)	**Bath** Pronounced as *baf* **something** Pronounced as *somefing*	**this** pronounced as *dis* **them** pronounced as *vem*
6. Postvocalic consonant reduction (omission of single consonant phonemes that follow vowels)	**plate** Pronouncing plate as *pla*	
Discourse type and definition	**Specific example of discourse type**	
7. Conversational conventions (traditional pauses, silences and longer wait time) (lack of direct eye contact with a speaker)	Not answering a question straight away, not engaging in rapid fire conversation Looking away from someone as they speak to visualise what they are saying	

With differences between the features of the dialects discussed and Standard English, it is not surprising that research has shown that speakers of English dialects can struggle with

attaining the literacy skills they are expected to, when it can be considered that they are or may possibly be learning in a different or second language (Peltier, 2010)

This acquisition of literacy skills is discussed in the following section.

3.2 Literacy outcomes for English dialect speakers

As discussed in Chapter Two, oral language ability is a predictor of literacy (reading and writing) acquisition. Given this, it could be contended that speakers of English dialects, displaying oral language traits and characteristics that are different to those expected in Standard English, may have some difficulty attaining adequate literacy skills. Thompson et al. (2004) claim that children who speak varieties of English that differ from the Standard American English used in schools, are potentially disadvantaged when compared to their peers, who speak Standard American English. While there appears to be a variety of reasons for this, such as assessment measures, curriculum and instruction being based on Standard American English, they also point out that a significant number of African American children are reported as having lower levels of literacy and academic achievement than their peers, and that this disparity has been evident for over a century. They continue to assert that African American English dialect spoken by these children, not only influences their learning but also impacts on their performance in standardised testing measures.

In her examination of the relationship between dialects and emergent literacy skills, Terry (2014) concurs that oral language is a strong indicator of in the attainment of conventional literacy skills and that this is consistent over a variety of populations. By testing a sample of racially and socially diverse, 'typically developing' children, she was subsequently able to state that the relationship between the use of Non Mainstream American English speech forms and literacy attainment, was such that those who produced more dialectally different speech forms, performed more poorly on tasks that required letter

identification, letter name/sound correspondences, initial phoneme identification, rhyme production and identification and text components. Significant correlations were identified in all aspects of emergent literacy, except for name writing. She does conclude that disparity between Non Mainstream American English production and literacy acquisition would be critical for older children, who had weak metalinguistic awareness skills.

In a more recent study conducted through the Florida State University and the Florida Center for Reading Research by Gatlin et al. (2013), a correlation between the density of an African American English speaker and their reading comprehension level was established. Thus, the higher the density (or frequency of) dialectal differences and the ability to be aware and code-switch influenced the reading comprehension skills of the participants.

While the relationship between Non Mainstream American English and literacy acquisition has been investigated for over 30 years (Terry et al., 2010), it appears that most empirical research has involved speakers of African American English, while other Non-Mainstream American English dialects such as South American English, Latino English and Creole English, have not been empirically investigated, to ascertain whether they also show correlations between dialect density (production of Non Mainstream English) and literacy attainment.

One very early language based research into the effect of dialects of English and languages other than English, on students reading in English, was conducted by Goodman (1978). He found that students who had Samoan as their first language and spoke a form of pidgin English had more errors in retelling stories as well as in their oral reading than those who were native pidgin speakers, but that the native Mainstream English speakers had less errors than the previous two groups.

Another example of a language-based rather than empirical study is that of Washington & Thomas-Tate (2009) who claim that oral language skills are the foundation for written

language skills, which, as they progress, impact positively on further oral language ability. They also contend that for African American Students, the acquisition of adequate written language skills is hindered by oral language proficiency, leading to ongoing disadvantages in academic settings.

Underpinning the research that asserts that speakers of Non Mainstream English or Non-Standard English Dialects, can be disadvantaged when learning to read and write in Standard English, are three main theories as to how and why this occurs. Charity et al., (2004) and Terry et al. (2010) discuss these theories in reference to their separate studies on dialect and reading and/or literacy attainment. The four hypotheses or theories, currently accepted as possible cause for the disparity between speakers of non-standard English and Standard English, with regard to literacy acquisition are;

1. The teacher bias hypothesis
2. The linguistic mismatch hypothesis
3. The linguistic awareness/flexibility theory.
4. The dialect shifting hypothesis

The teacher bias hypothesis links the notion that many of the children who display high usage of Non Mainstream American English (Terry & Connor, 2004; Terry et al., 2010) or African American English (Charity et al., 2004; Ivy & Masterson, 2011), come from lower socio-economic or racial minority homes. This can in turn mean that their language and social situation differs from that of their teachers, thus their teachers, whether consciously or unconsciously, can have lower expectations for their learning (Cheatham et al., 2009). This would lead to a negative linear relationship between their spoken language and reading ability. Proponents of this hypothesis believe that, while it is evident that there is an achievement gap between those that speak a Non-standard English dialect and those that

speak Standard English, the gap is not due to the dialect per se, but due to other extrinsic factors surrounding the lives of these students. These can include;

i. Prejudice against by classroom teachers
ii. Inadequate and insensitive instruction
iii. Inappropriate testing procedures
iv. The confounding of socioeconomic and instructional differences in prior research studies (Charity et al., 2004)

The linguistic mismatch hypothesis was contended as early as 1969, with Baratz's study involving teaching reading in an urban Negro environment. Since then and particularly since Labov's (1995) study with African American youth, this hypothesis has become the most widely accepted theory underpinning the literacy achievement gap seen in speakers of Non Standard English. This theory hypothesises that the achievement gap evident in speakers of Non Mainstream or Non Standard English, can be explained by the differences in the children's speech compared to written text encountered in academic situations. Thus, as a child is learning to read, the orthography does not match the sounds they recognise in their own speech patterns. Equally, as they are learning to spell, their recorded spelling patterns reflect their speech, rather than the spelling expected in Standard English (Treiman, 2004).

One difference between this and the teacher bias hypothesis, giving it more credence, is that there is empirical evidence that correlates the production of Non Mainstream English utterances and reading ability (Charity et al., 2004; Craig & Washington, 2004; Ivy & Masterson, 2011; Terry, 2014; Terry & Connor, 2012).

A more complex explanation for the achievement disparity has more recently been defined by the linguistic/flexibility hypothesis. This hypothesis is underpinned by empirical evidence that shows negative associations between higher rates of non Standard English

production and language and literacy skills such as phonological awareness and vocabulary knowledge (Terry et al., 2010). Metalinguistic awareness is also a strong indicator of later reading success, thus, this hypothesis claims that, it is a child's metalinguistic awareness skill that determines there success in reading. This means, that those who are more aware of the phonological, morphological and semantic characteristics of their own dialect and Standard English, will perform better on reading tasks. When this notion is combined with metalinguistic knowledge at the sociolinguistic level, the definition of this hypothesis then becomes one where dialect usage is related to metalinguistic awareness. Hence, metalinguistic awareness equates to more dialect use, thus the reason for the achievement gap can be explained by poor metalinguistic awareness.

Some researchers have taken this theory and expanded it to include the contention that the metalinguistic skill of children changing their dialect, or 'code-switching' is a vital component in explaining the achievement gap in speakers of Non Standard English. This is known as the dialect-shifting hypothesis.

The dialect-shifting hypothesis is supported by research such as that by Ivy & Masterson (2011), Terry et al. (2010) and Craig (2016) where positive linear relationships were recorded between literacy skills and reading and dialect shifting ability. Dialect shifting sometimes described as code switching, is the ability to differentiate between the rules that govern their particular dialect and those of Standard English. While there is some empirical evidence to support this hypothesis, it appears that most of the studies involve speakers of African American English (Charity et al., 2004; Ivy & Masterson, 2011; Kohler et al., 2007; Terry et al., 2010; Terry & Connor, 2010; Terry & Connor, 2012). At this point, there does not appear to be current New Zealand based research pertaining to either the linguistic awareness/flexibility theory or the dialect shifting hypothesis. One area that has been studied in New Zealand and world-wide, and features as part of the teacher bias hypothesis, is the use

of inappropriate testing measures with children who speak varieties of Non Standard English.

3.3 Testing Measures

3.3.1 Standardised testing. There have been previous studies in the area of the reliability or inappropriateness of testing measures for students who speak a variety of English that differs from the Standard English used in academic situations (Maclagan et al., 2008; Terry & Connor, 2012; Thompson et al., 2004). As previously mentioned, testing measures are cited as one of the possible causes of the achievement gap, within the teacher bias hypothesis. The reasoning underpinning this, is the contention that testing measures used to ascertain literacy success, whether it be by classroom teachers or through standardised testing at a state, country or world-wide level, are written in Standard English used in academic and educational settings. Therefore, children sitting these tests, who speak a dialect of non-standard English, such as African American English or Australian Aboriginal English, are linguistically disadvantaged, in that the spelling, vocabulary, and syntax used is essentially not their 'native' or first language (Ford, 2013; Maclagan et al., 2008; Pearson et al., 2009; Peltier, 2010; Wigglesworth, 2011; Tate et al., 2006; Thompson et al., 2004).

Sitting along side the view that standardised testing measures are linguistically orientated towards Standard English only, is the contention that the testing and teaching methods are also culturally embedded in the colonised, hegemonic and privileged western societal beliefs (Ford, 2013; Thomas-Tate et al., 2006). Thus, despite decades of knowledge that the achievement gap between indigenous and non-indigenous children exists, attempts to rectify it by applying more culturally insensitive teaching and assessment measures has not changed the outcomes, as in the case of Australian Aboriginal English speakers (in the last 15 years (Ford, 2013). There is a contention by some educationalists and researchers, that through appropriate testing and analysis of dialects, to quantify the difference between them

and Standard English, it would be possible to then target and teach speakers of non-standard English dialects, in a manner that will allow them to understand their own dialect and also Standard English.

3.3.2 Dialect testing. To establish the variation between a child's spoken /oral language and standard oral English, researchers have devised a variety of testing measures and subsequently described these differences in a variety of ways. Oetting & McDonald (2002) described three methods or approaches found in the literature, that could be used to code or determine dialect. One of these is the Listener Judgement Method (LJM), where listeners perceptions of dialect use can be rated on a scale from, for example, heavy to light or low to high (Horton & Apel, 2014), rather than recorded and analysed by phonological or morphological features. The second method or approach is the Type-based Method (TBM). Within this method, researchers classify speakers based on the number of non-mainstream phonological or morphological utterances they produce. This type of dialect testing is considered to be easy to administer, as is the Listener Judgement Method, but has also been found to be unreliable by Oetting & McDonald (2002) as some researchers attributed certain features to specific dialects, such as African American English, when they were evident in a number of Non-mainstream English dialects. An example of a Type-based Method is the Dialect Differences test (Rystrom, 1969), which involves sentence repetition tasks. The aim of the development of this particular test was to establish actual differences between what was then described as Negro English (Rystrom, 1969) and Standard English. This early research revealed differences such as the omitted endings of words such as the /p/ in pipe and the /v/ in drive. Amongst concluding statements in this research, Rystom (1969) contends that " if it is demonstrated that a Negro child is hindered by his dialect in acquiring some skills, such as reading, then the schools have an obligation to teach an additional dialect to him" (p. 511).

The third method is the Token-based Method (TKBM). The aim of this method is to record the rate and type of dialectal utterances or differences that a speaker makes.

Dialect variation (DVAR) is one such description. This is based on a standardised test developed by Seymour et al., (2003), whereby a percentage score is given for the number of verbal responses to pictures that are either (i) different to mainstream American English, (ii) Mainstream American English, or (iii) unable to be recorded. Each picture has a target word/sound, for example, the substitution of the labio-dental fricative /f/ for the dental fricative /Ɵ/ is examined through the viewing of a bird taking a bath, whereby the pronunciation of the word 'bath' is the target. This test is known as the Diagnostic Evaluation of Language Variation (Seymour et al., 2003). This test has subsequently been used in other research such as that by Terry et al., (2010) in their study of the relationship between dialect variation and literacy skills in first grade children, and Terry & Connor (2012) in their research pertaining to the changes in Non-mainstream American English use in kindergarten to first grade children in the United States of America.

Charity et al. (2004) used a sentence imitation task, in a picture book context, to establish what they describe as dialect differences, in their research into African American children's familiarity with School English, and its relationship to early reading achievement. This test also examined possible memory errors as well as 21 phonological and 22 grammatical differences, through 15 sentences, prescribed for imitation. During the process of using this test, some items were found to be unreliable, thus the final scores were given as a percentage correct out of 18 phonological, 19 grammatical and 17 memory items.

Dialect Density is another term used in reference to differences between Mainstream American English and African American English, in studies by Craig et al. (2003) and subsequently by Ivy & Masterson, (2011), Kohler et al. (2007), Gatlin et al. (2013) and Gatlin et al. (2015). This Dialect Density Measure (DDM) is expressed as a percentage of dialect

differences, based on the proportion African American English features used in, for example, the first 50 spoken or written words.

Based on the development and use of these tests, it appears that researchers are able to adequately determine and record the differences between Non Standard English Dialects and Standard English. In some instances, they also propose correlations between instances of dialect usage and literacy skill attainment (Charity et al., 2004; Ivy & Masterson, 2011; Kohler et al., 2007; Terry, 2010: Terry & Connor, 2012; Terry et al., 2010; Thompson et al., 2004). Pertinent to this research would be the ability to use this information to inform pedagogy and/or intervention, that could address the differences and improve outcomes for children who are speakers of non-standard English dialects.

3.4 Addressing Dialect differences

Having acknowledged that there is an achievement gap between speakers of Non-standard English dialects and Standard English speakers, some researchers have focused on specific measures that may improve the literacy outcomes for those who are struggling. Charity et al. (2004), Craig (2016), Hagemann (2001), Hollie (2001), and Peltier (2010), suggest that through the acceptance of speech differences and explicit instruction in the differences (increasing their meta-awareness) between children's dialects and Standard English, particularly in the written form, children can improve their ability in reading and writing and learn the ability to differentiate between Standard English or 'School English' and their own dialectical version of English.

Although, it would appear that there are differing approaches to addressing the dialect issue, just as there are varied explanations or hypotheses as to why the achievement gap exists (see 3.2 above). Some focus specifically on the linguistic features of the dialects while others focus on the broader view of the dialects which encompasses cultural, linguistic and

pedagogical considerations. Charity et al. (2004) contend that three causal hypotheses: "instructional variation by linguistically biased teachers, linguistic interference between oral and written dialect features, and metalinguistic influences on the development of language and reading" (p.1354) are not mutually exclusive. Thus, for researchers and educationalists to embark on an intervention or interventions, the choice would be based on their own particular view as to which hypothesis was (more) correct. Nevertheless, the following types of interventions or strategies can be found in other areas of the literature: (i) explicit instruction, particularly in orthography, (ii) development of meta-awareness (metalinguistic) skills, (iii) teacher education in sociocultural and linguistic research (linking research to practice), and (iv) linguistic affirmation.

3.4.1 Explicit orthographic instruction. Historically, there have been attempts to 'correct' the English of African American students through verbal drills such as pattern drills, substitution drills or replacement drills. This system, along with persistent correction of African American English features by teachers, to replace their speech with Standard English speech, is known as eradicationism (Ray, 2009). More recent research advocates the use of explicit instruction, not to eradicate the students 'first language' or dialect, but to facilitate achievement in reading and writing of standard English. For example, in their study of African American English and spelling, Terry & Connor (2010) suggest that explicit practice of dialect sensitive areas of words may be required for some speakers of African America English to achieve spelling mastery. The specific example they give is the word *bath.* If when asked to write bath, the child instead writes *baf*, specific attention to the orthography of this word is needed, without emphasising speech production as such. Similarly, Kohler et al. (2007) contend that, children's spelling errors may not be purely related to phonemic awareness, but that 'interconnections between orthographic knowledge and phonemic knowledge were not yet unified into a single set' (p.166), thus, the inclusion of patterned

spelling interventions would be useful.

In contrast to concentrating only on the specific orthography of Standard English, Peltier (2010) suggests that for Canadian children who are speakers of an Aboriginal English dialect, specific instruction in reading and writing in their dialect as well as in Standard English, would be beneficial for those struggling to acquire literacy skills in Standard English. James (2015) takes this notion further, with her development of reading and writing materials for Australian children who are speakers of Aboriginal English. Graduated reading books include words from Aboriginal English as well as themes and characters that are culturally appropriate. She contends that allowing children to consolidate their literacy skills through explicit instruction in both Aboriginal English and Standard Australian English, facilitates enjoyable and faster acquisition of literacy skills. Through explicit instruction, children will also be gaining a better understanding of their own dialect and standard English, this enhanced understanding, underpins the second method of addressing dialectal differences.

3.4.2 Development of meta-awareness skills. Research indicates that for African American children who speak African American English, their reading and writing improves as their level of dialect density (use of African American oral and written forms) decreases (Craig, 2016; Connor & Craig, 2006; Craig & Washington, 2004; Ivy & Masterson, 2011; Terry & Connor, 2012; Thompson et al., 2004). This decrease in use of African American English, particularly for children who have moved from Kindergarten to first grade (Craig & Washington, 2004; Connor & Craig, 2006; Ivy & Masterson, 2011, and Terry & Connor, 2012) has in part been attributed to the ability of the children in their studies to 'code-switch'. Code-switching can be defined as "the mental 'translation' process that occurs in people who are bilingual or bidialectical. Code-switching allows a person to both understand and convey thoughts in either language," depending on their own predetermination of the appropriateness of the language to the situation (Fields, 1997, p. 18). Some children acquire the ability to

code-switch through immersion in the standard English context of formal schooling, whereas others appear to struggle to attain this skill (Craig, 2016; Connor & Craig, 2006; Craig & Washington, 2004; Ivy & Masterson, 2011). When children are not able to attain this ability, the research also suggests that given the correlation between dialect density and reading achievement, children may benefit from systematic and explicit instruction pertaining to the differences between their dialect and standard English. The teaching of this ability is sometimes described as metalinguistic awareness or dialect awareness training (Connor & Craig, 2006), or as meta-awareness skill development (Ivy & Masterson, 2011). While the difference in name seems unimportant, the facilitation of the ability to code-switch and/or have an awareness of the differences between a dialect and standard English can appear to enhance literacy learning, for speakers of nonmainstream dialects of English. One method of instruction to promote code-switching, is Overt Comparison (Hagemann, 2001). This involves students noticing and paying attention to a particular feature or rule in Standard English, comparing it to a similar feature or rule in their own dialect, and then embarking on integrating the feature or rule into their own writing in Standard English. While this particular research was with University students, the method may be useful with younger children, if the features or rules were pointed out or taught by the teacher, to enable the follow on process to be achieved.

Literature in this particular area of improving outcomes for speakers of non-standard English does suggest a need for more research to be carried out, with large sample sizes, to confirm the reliability of this hypothesis (Connor & Craig, 2006; Craig &Washington, 2004; Ivy & Masterson, 2011; Terry & Connor, 2012; Thompson et al., 2004). If classroom teachers are to be expected to improve literacy outcomes and close the achievement gap for speakers of dialects of English, it seems appropriate that the third method of facilitating this, would be teacher education.

3.4.3 Teacher education. Through observation of classrooms here in New Zealand and reviewing the literature pertaining to literacy acquisition, it appears that many classrooms are becoming culturally diverse (see also, the New Zealand Situation, in Chapter Two). To enable teachers to adequately address the needs of all the learners in their classes, there is a consensus for the need to embrace diversity (Cheatham, 2009; Godley et al., 2006; Jonsberg, 2001; Pearson et al., 2012; Peltier, 2010). In their research on preparing teachers for dialectically diverse classrooms, Godley et al. (2006) found that while the general public perceived teachers to have negative beliefs about what they refer to as 'stigmatised dialects' or 'vernacular dialects', teachers held many differing views. They contend that in order for teachers to provide adequate learning situations for dialect diversity, they must first undertake a course in language diversity or linguistics. This may help remove the negative assumptions that dialects are a 'poor' version of Standard English, that need to be treated with the eradicationism methods previously described. Under the definition of sociolinguistic diversity, they propose three pedagogical methods that they contend will reduce educational inequality and improve outcomes for dialect speakers in the United States of America. The first of these methods is the notion of treating diversity as a resource rather than a deficit. Specific examples that reflect this notion would be: (i) using African American English as an instructional resource, (ii) refraining from labelling dialects as illogical or incorrect, (iii) use of teaching methods that embrace and reflect the culture of the dialect, such as vernacular discourse patterns. The second method they propose is the implementation of a curricular unit on language variation. This would teach students metalinguistic awareness, including how and why language changes and varies according to different contexts which would be beneficial for all students, not only those who spoke dialects other than Standard English. Their view is, that it would also facilitate code-switching. The final method discussed, is that dialect patterns (spelling and syntactical) should be addressed in a contrastive manner, rather

than being thought of as errors. These three methods appear similar to some discussed previously in 3.3.1, however, the emphasis in this research is the importance of teacher education, in order that these pedagogies can be employed.

Concurring with the negative stereotyping that can be associated with dialect use, particularly in educational settings, Cheatham et al. (2009) assert that (early) educators should address language diversity and dialects with children, staff and parents, and that they must facilitate children's understanding of 'sociolinguistic and language use awareness' (p.8). Their recommendations are partly based on the work of Godley et al. (2006), thus they suggest early educators: (i) develop thematic units based on language diversity, (ii) include books containing dialects (in a similar manner to those of James (2015), (iii) engage in age-appropriate discussions around contexts for standard English use and dialect use, (iv) use (picture) books that have authentic representations of individuals, cultures and languages, (v) use dialects as an instructional resource, (vi) create standard and non-standard English dictionaries, (vii) translate known texts, such as poems and stories, into other dialects of English, (viii) use accurate assessment measures for speakers of non-standard English dialects. Overall, they promote a positive attitude towards cultural and linguistic diversity, through education, and suggest many books and helpful references for educators who are indeed dealing with a culturally and linguistically diverse classroom. Linked to positivism surrounding cultural and linguistic diversity, is the fourth method of addressing dialect differences in educational settings, linguistic affirmation.

3.4.4 Linguistic affirmation. Hollie (2001) described and discussed a researched based programme designed to address the language needs of African American, Mexican American, Hawaiian American, and Native American students, for whom Standard American English is not their first language. The Linguistic Affirmation Program (LAP) was introduced in to some Los Angeles schools in the 1990s, and is primarily an awareness programme that

employs the use of six research based instructional approaches. These approaches are;

1. Build teachers' knowledge, understanding, and positive attitude toward nonstandard languages and the students who use them.
2. Integrate linguistic knowledge about non-standard language into instruction.
3. Utilize second language acquisition methodologies to support the acquisition of school language and literacy.
4. Employ a balanced approach to literacy acquisition that incorporates phonics and language experience.
5. Design instruction around the learning styles and strengths of Standard English language learners.
6. Infuse the history and culture of Standard English language learners into the instructional curriculum. (Hollie, 2001)

It would appear that all of these points have previously been discussed with regard to addressing dialect differences, with the point of difference being that these six methods have been proposed and implemented as a specific programme, as opposed to a suggestion of pedagogy. Results of the implementation of this programme, reported in the article as being a comparison anylysed by Taylor, cite a 59% decrease in African American Language use in writing, as opposed to an 85% increase in African American Language use in writing by students receiving standard classroom instruction. Unfortunately there is no reference cited for these data, thus it would require further investigation, to ascertain and verify the success rate of the Language Affirmation Programe as such.

What stands out thus far, with regard to dialect use and literacy acquisition, is the plethora of research involving African American English use. Considering the current research is to be undertaken in New Zealand, a closer examination of the situation with

regard to language, dialects and literacy learning is required.

3.5 The New Zealand Situation

In New Zealand, English and Māori (also known as Te Reo Māori , the language of the indigenous people of New Zealand) are both listed as official languages. The predominant language is English, and apart from a minority of Māori Language Schools (Te Kura Kaupapa Māori), the language of instruction is Standard English (see definition in Chapter One). As with other countries discussed, New Zealand also has some dialectal forms of English that have been identified in the literature.

Gordon & Deverson (1998) and Holmes (1997) investigated speech differences within New Zealand. Their investigations involved the gathering of taped audio samples of participants speaking, thus they were able to identify common features of the dialect, influenced by participants ability to also speak Te Reo Māori (indigenous language of the New Zealand Māori people). Both studies refer to the dialect they investigated as Māori English, and contend that, as a form of speech pattern , it can impact on New Zealand children's (both Māori and Pakeha) ability to acquire adequate literacy levels. However, while they found it to be specific to certain social settings, their research was conducted more than 15 years ago. At that time, the evidence was gathered from adults (18-55 years), and indicated that there was an ability for participants to change their speech (code-switch) to a more standard form of English when being interviewed. There does not appear to be any information, from these studies, as to the incidence of Māori English in young, five to eight year old, school age children.

Through their research with children, Maclagan et al. (2008), also contend that Māori English is the fastest growing language in New Zealand and attribute it to the increase in bi-lingual (Māori and English) speaking households. Whereas, though classroom observation,

there is a suggestion that children who display speech characteristics similar to Māori English are not necessarily from bi-lingual homes. Indeed, Pasifika and European New Zealand children are among those who seem to use some of the common Māori English characteristics, as described by Maclagan et al. (2008), and have little or no exposure to the Māori language within their homes.

These types of speech differences, from personal experience and observation, seem to be more prevalent with New Zealand Māori, Pasifika and other children in low socio-economic households and low decile schools. In New Zealand, schools are given decile rankings based on census reports of parental socio-economic status, thus schools in areas of low socio-economic communities are ranked as low decile schools.

Deciles are a measure of the socio-economic position of a school's student community relative to other schools throughout the country. For example, decile 1 schools are the 10% of schools with the highest proportion of students from low socio-economic communities, whereas decile 10 schools are the 10% of schools with the lowest proportion of these students (Ministry of Education, 2015).

There is an over representation of New Zealand Māori and Pasifika children at the lower decile schools (Maclagan et al., 2008; Patel, 2010; Thrupp, 2015). While the standard of teaching in these particular schools is not the focus of this study, there is however, the difference in speech patterns, noted through observation, which are similar to those noted in Māori English by Maclagan et al., (2008) which are the concern of the current research.

3.5.1 Māori English. Māori English is the variety of non-standard English, spoken specifically in New Zealand, which is described and considered by Holmes (1997) to be a variety of New Zealand English. Earlier research by Richards, (1970) suggested that it occurs with two different levels and styles. The first being a variety that features the use of vowels in English words being pronounced in the manner of Te Reo Māori words, and predominantly

used by notable public Māori figures. The second form of Māori English is said to be spoken by a much larger group of New Zealand Māori, including thoses from lower socioeconomic backgrounds, and features vocabulary, grammatical and pronunciation differences (Holmes, 1997). It includes the random use of Māori words and is reported to be spoken more often by New Zealand Māori than European New Zealanders, although European New Zealanders who have an association with New Zealand Māori, through social or geographic location, have been noted as displaying these types of dialectal characteristics. Through looking at the research of Holmes, (1997), Maclagan et al (2008) and Meyerhoff (2005), a set of common characteristics has been compiled that are shown in Table 3.5.

Table 3.5 Common features Māori English

Phonological type and definition	**Specific example of phonological type**	
1. Devoicing final consonants (voiceless consonants substitute for voiced after the vowel)	**Eyes** Pronouncing eyes as *ice*	
2. Substitutions for th (a variable substitution of /t, d, f, v/ in pre/inter and post vocalic positions)	**Bath** Pronounced as *baf* **something** Pronounced as *somefing*	**this** pronounced as *dis* **them** pronounced as *vem*
3. Unaspirated consonants Unaspirated /t/	**Matter** /t/ pronounced as /d/ *madder*	**Another** /th/ pronounced as /d/ *anodder*
Discourse type and definition	**Specific example of discourse type**	
4. Pragmatic particle eh? (finishing a sentence with eh?)	I know, *eh?*	
5. Terminal intonation (Use of high rising intonation at the end of a sentence)		
Lexical features	**Specific example of lexical features**	
6. Te Reo Māori (inserting Te Reo Māori words in a sentence)	Hello, how's the *whanau* (family)?	
Morphological type and definition	**Specific example of morphological type**	
7 .Kinship terms (use of kinship terms when addressing family and/or non-family members)	**Cuz** (for cousin) **Bro/sis** (for brother/sister or friend)	

While some of the characteristics noticed through classroom observation and teaching do appear to be the same as those described by Gordon & Deverson (1998) and Holmes (1997) and Maclagan et al. (2008), there are other characteristics noted, that could be more akin to those described by Hay et al. (2008), as being typical of the non-standard form of English spoken by many people living in New Zealand, known as New Zealand English. This form of English is typically recognised by Northern hemisphere dwellers by the unusual

vowel pronunciations, and often leads to episodes of teasing that New Zealanders say *fush* instead of fish. (Hay et al., 2008).

3.5.2 New Zealand English. Hay et al. (2008) found that while New Zealand English is a rapidly changing form of English, there are certain characteristics that stand out. See Table 3.6

Table 3.6 Common features New Zealand English.

Phonological type and definition	**Specific example of phonological type**	
1. Retroflexed /r/ (incorrect pronunciation of blends involving /r/)	Drink (pronounced as *jrink*) Tree (pronounced as *chree*)	
2. L-lessness (velarized l) (omission of final /l/ after a vowel)	**Feel** Pronounced as *feo*	
3. Substitutions for th (a variable substitution of /t, d, f, v/ in pre/inter and post vocalic positions)	**Bath** Pronounced as *baf* **something** Pronounced as *somefing*	**this** pronounced as *dis* **them** pronounced as *vem*
4. Glottal stop /t/ (omitting the ending /t/)	That (pronounced as *tha*)	

Maclagan et al., (2008), discovered that children speaking Māori English and other varieties of English dialects in New Zealand schools, such as New Zealand English were able, later in their schooling to code switch in both their speech and their writing. They also noted however, that educators need to be more sensitive to the speech differences, and that, as with Peltier (2010), the use of standardised tests had placed these children within a deficit model, which was not conducive to allowing them to reach their full academic potential.

Statistics from the Education Counts website (2015) show that only 61.15% of New Zealand Maori and 59.63 % of Pasifika students are at or above National Standards across all year levels in Writing and 68.58 of New Zealand Maori and 65.12 % of Pasifika students are

at or above for reading.

Given that 'Since 2013 there has been a decline in the proportion of students achieving at or above standard after their first year in schooling in reading and writing' (educationcounts.govt.nz, 2015, website), it may be that educators cannot wait for students to attain the ability to code-switch, but instead, actively pursue ways to facilitate that ability, with the hope of improving literacy outcomes.

It appears that some New Zealand children, particularly those in lower decile schools speak a non-standard form of English, that may possibly have some of the features of Māori English and New Zealand English. This will be referred to as non-standard English for the purposes of this study. Without further in depth research it is not possible to accurately define whether this non-standard English witnessed in certain schools and areas of society is exactly the same as that documented by previous research. This non-standard English possibly bears a resemblance to Māori English and New Zealand English but also to the African American English dialect in America, more recently referred to as African American English (Craig & Washington, 2004; Thompson et al., 2004; Washington & Tate, 2015). Ivy and Masterson (2011), in their study of African American Vernacular English speaking children in America, found that younger students used typical African American Vernacular English features in their writing, but that if they were directly taught the difference between their own dialect and the more formal English required for schooling, they were able to 'code' or 'dialect switch' at around eighth grade. However, they noted that 'the sociolinguistic differences of these children must be an aspect of consideration in helping them reach their full academic potential' (p.37). Thus, through this study, the identification of specific differences in speech patterns will be noted, and an intervention developed, that will address these differences and possibly facilitate a faster pathway to academic potential, that allows children with these differences more chance of attaining the desired National Standards, thereby helping to

address underachievement in reading and writing performance.

Thus, the aim of this research is initially to investigate the characteristics of the common dialect differences between the non-standard English observed in the classroom and school setting and the Standard English expected for successfully completing age appropriate literacy tasks. By trialling dialectical instruction methods with and without more commonly used early literacy interventions such as phonological and phonemic awareness, repeated whole text reading and direct instruction in English spelling the following questions will be addressed:

1. Can direct instruction in dialect differences (meta-awareness or dialectal awareness) alone, help remediate the reading, writing and spelling difficulties children in their early years of learning?
2. Would an intervention programme that combined a phonemic awareness component with the teaching of meta-awareness of dialect difference (dialectal awareness), improve literacy acquisition more than a phonemic awareness, a dialectal awareness and a general classroom teaching programme on their own?

The hypothesis is that teaching meta-awareness of dialect differences (dialectal awareness) along with a phoneme based early literacy intervention will be more effective for improving acquisition for struggling readers and writers who display dialect differences.

Chapter Four

Choice and Description of Measures

4.1 Introduction

Initially, an assessment battery comprising of eight different measures were chosen, to assess participant's literacy and language related skills. Six of the eight measures are commonly used in New Zealand schools by classroom teachers, as diagnostic tools, to inform next learning steps for their students and also to track progress against age appropriate expectations for reporting purposes. Diagnostic assessment provides information for teachers on what or how students are achieving at a particular time. Diagnostic tools give detailed information about students' learning needs and prompt reflection on appropriate teaching strategies to meet these. Diagnostic assessment also informs future programme planning, and gives valuable information to teachers on how they may scaffold the learning to meet the individual learning needs of students.

Study One, the pilot study, discussed in detail in Chapter Five, provided an opportunity to assess these measures for accuracy and practicality. At the conclusion of Study One, two assessment measures (Alphabet letter/sound identification and the Bryant Test of Basic Decoding Skills) were discarded as they were time consuming and not practical given the larger numbers of participants, particularly in Study Two (see Chapter Six).

A further two assessments, the Running Record of Oral Reading and the asTTle Timed Writing Sample were included in the results for Studies Two and Three, but were administered by either the classroom teachers or literacy teachers within the schools that participated in Studies Two and Three. In Study Three, (see Chapter Seven), two measures, a Dialect Sensitive Spelling Test and a Dialect Density Sentence Repetition Task were

specifically developed, based on dialect information gained from Studies One and Two. These are described in detail in sections 4.2.4 and 4.4.2 in this chapter.

Table 4.1 below, lists the measures used and the literacy skill or language related skill being assessed.

Table 4.1 Assessment battery measures

Name of assessment measure	**Study used in**	**Target skill being assessed**
Alphabet letter/sound identification	One	Basic English letter/sound identification and correspondence skills
Peters Spelling Age Test	One and Two	Orthographic processing/memory
Timed writing sample	One, Two and Three	Word, sentence and text level knowledge
Bryant Test of Basic Decoding Skills	One	Phonological decoding skills
Running Record of Oral Reading	One and Two	Orthographic and reading comprehension
Burt Word Reading Test	One and Two	Orthographic processing/memory
Phonemic Awareness Test	One, Two and Three	Phonological awareness skills
Record of Oral Language	One and Two	Dialect in oral language
Dialect Detection Spelling Test	Three	Dialect in orthographic processing
Sentence Repetition for Dialect Density	Three	Dialect in oral language
100 word prose assessment	Three	Orthographic skills in context

The purpose of this chapter is to describe the assessment measures used throughout this research. Further analysis of these tests can be found in the results and discussion sections of the three separates studies, see Chapters Five, Six and Seven respectively.

4.2 Orthographic assessment measures

4.2.1 Alphabet letter/sound identification. Given that the two participants in Study One were almost two years behind where they would be expected to be in reading and writing, it was decided that there was a need to assess their knowledge of the alphabet and letter/sound correspondence ability. This test was devised by Marie Clay, as part of her *Observation Survey of Early Literacy Achievement* (Clay, 1993). Teachers in New Zealand typically use this test to ascertain competency, after a child has been at school for one full year, thus, normally around their sixth birthday. Each letter of the alphabet is randomly arranged on the page, Upper case first, followed by the same order repeated in Lower case. The child is required to say the name of the letter, the sound it makes and a word that starts with the letter for each one. Responses are recorded, with particular note being made of errors, omissions or confusions. This is not a standardised test, rather it is a diagnostic tool used to track progress and inform teachers as to the next learning steps for that particular child. This test is quite time consuming and needs to be administered on a one-to-one basis, according to the process prescribed by Clay (1993) outlined below, therefore, it was only used in Study One, where the participant numbers were the lowest.

Procedure:

1. Administer the assessment to individual children. The assessment area should be quiet and free from major distractions. Sit beside the child. Seat the child comfortably in front of an appropriate height flat surface, such as a child's table. Turn the alphabet sheets face down until you are ready to use them.
2. At pre-emergent level, stop if the child struggles and begins to show frustration. Mark the "stop point" on the answer sheet.
3. Say to the child, I'm going to show you some letters. Let's see how many you know. Then, beginning with the upper case letters, ask the child to name each

letter as you point to it. Use a masking card to cover rows below the row the child is looking at. Move across the lines from left to right as you or the child points to the letters so that the child is asked to identify the letters in random order. If the child gives you a sound or word, say, 'You are right. That letter has that sound, but can you tell me the name of that letter'? Repeat with the lower case letter card, name each letter. If the child is unsuccessful, remove the masking card, and ask the child to look over the letters and tell you any s/he may know. Highlight the letters used in her/his name.

4. Use the lower case letter card a second time and ask 'Make the sound the letter makes'. Use a masking card to cover rows below the row the child is looking at. Move across the lines from left to right. Letters on the task have been randomized.
5. If the child experiences difficulty focusing on one letter at a time, use a window card that has a square shape just big enough to show the letter. Cut out the square in the center of the card to highlight individual letters.
6. Mark the answer sheet by putting a check in the "N" (indicating letter name) column for a correct letter name response. Check the "S" (indicating letter sound) column for a correct sound response. Record any incorrect responses in the "I.R." (Incorrect response) column. If the child tells you a word that begins with the letter, you may record that in the "Word" column for your own information, but it does not affect the score.
7. One point for each correct letter name. Total possible 54
8. Score one point for any one letter sound that is acceptable for that letter. Total possible 26.

As can be seen on the scoring sheet the lower case letter /a/ and /g/ are repeated in two different fonts; **a/** a **g**/g . This provides children with the opportunity to correctly name the letter, given that they may or may not have experienced one or other of the versions of those letters

4.2.2 Peters Spelling Age Test. One of the areas that all three studies in this research aimed to show improvement in was spelling. Hence, this particular test was chosen, as it is standardised and also used in schools within New Zealand to track progress, despite it being more than 40 years old. The test was devised by Margaret Peters (1970) to calculate a child's spelling age as compared to their chronological age. By providing a spelling age, it was possible to directly compare it to the participant's chronological age, and subsequently assess any gains made towards where they would be expected to be given their chronological age and time in formal schooling.

The test is comprised of 67 words beginning with simple high frequency words, such as *on, the,* and *go* which become more complex as you move through. It includes Greek and Latin layer words and those containing silent letters, such as *mortgage, subterranean* and *politician*. A table is provided that converts the child's raw score into a spelling age in years and months. While administering the test, it is important to keep an eye on participants' written responses, as when they have made ten consecutive errors they are deemed to have finished the test. This particular spelling test was used in Studies One and Two, as it was able to be administered to a whole class at once. No information directly pertaining to the reliability of this test was found and is not inclused in the original handbook (Peters, 1970).

4.2.3 Burt Word Reading Test. Beyond the decoding and syllabic reading ability testing, is the ability for children to recognise whole words outside the context of written prose. This test was originally developed by the New Zealand Council for Educational Research in 1975. The exact test used in Studies One and Two was the revised and

rearranged version from 1981, accessed from the website http://www.burtbooks.com . The test begins with simple, high frequency words, and progresses to less common words, many containing unusual spelling patterns such as silent letters and Greek and Latin layer words. A chart converts the child's raw school into a reading age, and is normed for New Zealand children.

This test is administered on a one-to-one basis and was used in both Studies One and Two. It consists of 110 words printed in decreasing font size and with an increasing order of difficulty. As a diagnostic tool, it allows teachers to track achievement and inform decisions about appropriate teaching and reading materials, instructional groupings, etc. The prescribed method for the administration of this test, is detailed below. As with the standardised Peters Spelling Age test, there are prescribed guidelines for administering this test, which are directly transcribed from the administration manual (Gilmore et al., 1981).

Where to start: Children up to the age of nine or those known to be weak readers should start the test from the beginning. Pupils above the age of nine years may be allowed to commence the test at the third, fourth or fifth group of ten words (according to the age and the teacher's judgment), i.e. a 10-year-old may commence at the word 'nurse', a 13-year-old at 'emergency'. The point at which a child should commence is left to the discretion of the teacher, but a mark should be made on the record sheet of the first word of the group at which these older or brighter pupils commence, to enable the teacher to calculate the score correctly. Should a pupil fail with any word of a group of ten words, when he/she has started at a point beyond the initial groups of ten, then he/she should be taken back to read the preceding group of ten words e.g. A child commencing at 'beware' and failing on any word within this group should be taken back to read the group commencing 'nurse'. If he/she read correctly all ten words in this pair of lines, he should, of course, be credited with success on all earlier words.

During the test:

1. The child's original response should be accepted but spontaneous corrections should be allowed.
2. The child should not be told whether his responses were correct or not; if he asks, only general encouragement should be given.
3. Asking for a repetition of the word should be used only when the examiner is not sure of what the pupil has said. If the word is clearly said wrongly, e.g. 'know' instead of 'known' then there is no need to ask for a repetition. Asking the child to reread the word should not be used to indicate that there is something wrong with it. The only case in which one would allow this is when an obviously bright pupil or good reader makes a slip in an earlier word. For example, a bright ten-year old reading quickly may leave the 's' off boys', but on being asked again to read the word will usually give it correctly. It may be appropriate to advise a pupil who makes several such errors through inattentiveness to look at each word carefully before saying it.
4. The pupil should be allowed to read at his own speed. Some pupils are very slow and show a fairly well developed power of word analysis and synthesis if given sufficient time. The pupil should not be hurried, and self-corrections should be counted as correct.
5. Guessing is allowed; indeed a child should be encouraged to guess rather than omit words that he does not know.
6. Words should not be pronounced for pupils even when they stumble over them. Usually when a child is unable to say the word, the interjection, "We will leave that one. Let's go to the next word," is sufficient.
7. The usual pronunciation of words should be accepted. Local variations occur and these should be allowed for in deciding on the correctness or otherwise of

responses.

8. Any attempt at coaching or teaching the difficult words to pupils should be avoided.

Reliability statistics for this test are available in the Teachers Manual and state that the test-retest reliability coefficients were greater than 0.95 and up to 0.99 (Gilmore et al., 1981, p.9)

4.2.4 Dialect Sensitive Spelling Test. Based on spelling errors that were evident in the Peters Spelling Age Test (Peters, 1970) used in both Studies One and Two, along with dialect sensitive spelling errors evident in writing samples gathered in the two previous studies, a test was developed that was comprised of thirty words, but targeted 35 dialect sensitive spelling patterns. The test is included below as Figure 4.1.

Figure 4.1. Dialect Sensitive Spelling Test

1.	**The…….f/v/d**	**16.**	**That…….d/f/v**
2.	**Of…….v/ve**	**17.**	**Going……..omission**
3.	**With……..f/v**	**18.**	**Something…f and K**
4.	**Find……omission**	**19.**	**Threw…….fr**
5.	**Eyes……..ice**	**20.**	**Told…….omission**
6.	**Milk……oo/ow/aw**	**21.**	**Thing……..f and K**
7.	**Last ……omission**	**22.**	**Door……..ow/aw**
8.	**Used……..newsd/youse**	**23.**	**Pond……..omission**
9.	**Fell……..ow/aw/ull**	**24.**	**His……..omission**
10.	**Lots…….reversal**	**25.**	**Drink……..jr/ch**
11.	**Tell……..ow/ul/awl**	**26.**	**Chop……..sh /omission**
12.	**Just……..omission**	**27.**	**Hat……..omission**
13.	**Nothing….f and k**	**28.**	**Truck…….ch**
14.	**Felt…….oe, aw/owl**	**29.**	**Lap…….omission**
15.	**Wanted……omission**	**30.**	**asked……..aksed**

The yellow highlighted portions of the words indicate the dialect sensitive target areas. Possible written responses, if participants are indeed spelling words based on their phonological awareness of their dialect, are indicated after the dotted lines.

Results for this test are presented and discussed in Chapter Seven of this thesis.

4.2.5 Running Record of Oral Reading. The ability to read, as discussed in Chapter Two, refers to the ability to both decode and understand the words and the meaning they portray when written in context, in sentences in a continuous text. To assess this ability a Running Record of Oral Reading was used. Running Records were devised by Marie Clay (1993), as part of the *Observation Survey of Early Literacy Achievement.* They are widely used regularly throughout the world by teachers, as a diagnostic tool, to inform the next learning steps for their students and track progress of students reading behaviours and strategies and understanding of text against the expectations for children of a particular age and stage of formal schooling. The child is required to read a text aloud, to enable the teacher or researcher to follow along using a separate copy. Words that are read correctly receive a tick, whereas errors are noted and the incorrect response is recorded above the word. Reading behaviours are also recorded, such as corrections to errors, re-running of parts of sentences and appeals for help. One of the main objectives of this testing measure is to ascertain what cues the child is or is not using to read and understand the text. Structural cues, are the use of the child's knowledge of the grammar and structure of English, leading to the ability to check if a word or words sound right within the given sentence. For example, if a child reads *said* instead of *shouted,* the structure of the sentence maintains its integrity, despite the error, therefore the child is using structural cues. Visual cues involve the use of their knowledge of the shape of letters and words to correctly pronounce/read a word. For example, if the target word was *pool* and the child reads it as *poor,* they are using visual cues (poo-), but not

meaning cues. Meaning cues involve the evaluation of the meaning of the text at the sentence and paragraph level, to assist with reading and saying the correct word. For example, if the target word is *creek* and the child says *stream,* they are using meaning to work out the word. The sentence still makes sense, despite the error of the specific word. From this information, the correct instructional reading level is ascertained for that child. Figure 4.2 below identifies the types of reading behaviours that are recorded and the conventions that are used to record such behaviours.

Behaviour	Notation	Example
Correct response	Mark every word read correctly with a check mark.	✔ ✔ ✔ ✔ ✔ Can you see my eyes?
Substitution	Write the spoken word above the word in the text.	✔✔ ✔ the ✔ Can you see my eyes?
Omission	Place a dash above the word left out.	✔ ✔ ✔ _ ✔ Can you see my eyes?
Insertion	Insert the added word and place a dash below it (or use a caret).	✔ ✔ ✔ ✔big ✔ Can you see my eyes?
Attempt	Write each attempt above the word in the text.	✔ ✔ ✔ ✔ e-ey Can you see my eyes?
Repetition	Write R after the repeated word/phrase and draw an arrow back to the beginning of the repetition.	✔ ✔ ✔ ✔R ✔ Can you see my eyes?
Appeal* (asks for help)	Write A above the appealed word.	✔ ✔ ✔ A ✔ Can you see my eyes?
Told word	Write T beside the word supplied for the reader.	✔ ✔ ✔ T ✔ Can you see my eyes?
Self-correction	Write SC after the corrected word.	✔ ✔ ✔ the/SC ✔ Can you see my eyes?

*An appeal for help from the child is turned back to the child for further effort (e.g., Say: *You try it.* If the child is unsuccessful, the word is teacher-given (told word).

Figure 4.2 Running Record behaviours and conventions

In some variations to the original Running Record of Oral Reading (Clay, 1993), a child is asked to retell the story and answer questions about the text, to ensure they have comprehended what they have read. In Study One, both participants were assessed as part of the research using a Running Record of Oral Reading at the reading level (Reading Recovery level) their classroom teachers advised. In Study Two, Running Record of Oral Reading

results, also represented as a Reading Recovery level were given provided by classroom teachers, as it was not practical to administer this assessment with the larger numbers of participants. A description of the Reading Recovery process can be found in Chapter Two. A chart outlining Reading Recovery levels and appropriate age attainment can be found in Appendix two.

In Study Three, a 100 words prose sample was used, where errors were noted, pre intervention, post intervention and at a follow up assessment session. The change was made, as Running Record of Oral Reading, while useful for classroom teachers as a diagnostic tool, are not standardised and can viewed as subjective in nature. For example, if the administrator knows the child well, they may inadvertently credit the reader with a word being correct, based on the knowledge that that reader usually gets it correct, or prompt the child to illicit the correct answer.

4.2.6 100 word prose assessment. Because the Running Record of Oral reading was designed to analyse reading strategies and behaviours as opposed to quantitative accuracy, it was not used in the third study. Instead, a 100 word sample of text, taken from a complete text that the participants had read with their classroom teachers or literacy specialists prior to the interventions was used. The same text was used at subsequent testing sessions, with the exact accuracy out of 100 being recorded. The texts were different and specific to each participant, appropriate to their reading ability as described by their teachers. This test is discussed in more detail Study Three, Chapter Seven of this thesis.

4.3 Phonological awareness assessments

4.3.1 Phonemic Awareness Test. Phonemic awareness is a specific subset of phonological awareness, as discussed in Chapter Two, that requires the ability to hear and manipulate the sounds in English language words. Phonemes are the smallest units of sound

that can differentiate meaning. In English, there are 44 phonemes or units of sound, that make up all our words. For example, the spoken word "cat" can be broken into three distinct **phonemes**, /k/, /æ/, and /t/. Phonemic awareness does not entail any ability to read or write, but is purely an aural skill.

Originally devised by Roper (1984), this particular test was revised by Gough, Kastler and Roper, and has been analysed by Nicholson (2005), to provide relevant age expectations for New Zealand children. The test involves, segmenting, blending and substituting phonemes within words containing two, three or four phonemes. It measures the child's ability to hear and manipulate the sounds (phonemes) in words. This test was used in all three studies as phonemic awareness is considered a strong predictor of reading ability, see Chapter Two.

The test has a total of 42 items, broken in to six sub sections, with seven items in each sub section. The six subsections are:

1. Blending
2. Deletion of first phoneme
3. Deletion of last phoneme
4. Phonemic segmentation
5. Substitution of first phoneme
6. Substitution of last phoneme

While it would be usual to follow the numerical order of each sub section the order was adjusted to one that that was considered easier for the children to understand, based on experience and results from Studies One and Two. The order used was:

1. Blending
2. Phonemic segmentation

3. Deletion of first phoneme
4. Deletion of last phoneme
5. Substitution of first phoneme
6. Substitution of last phoneme.

The reason for this change is that deletion of a phoneme, from experience and observation, can be harder for the participants to do, therefore by giving them the two slightly easier ones first, blending and segmenting, some success and sense of achievement would enable them to face the other four tasks in a calm and happy manner. Results and the successfulness of this modification are described in the results section of Chapter Seven.

Each sub-test had a practice item, involving the word *cat* to ensure each participant understood the requirements of the test.

4.3.2 Bryant Test of Basic Decoding Skills. As discussed in Chapter Two, the ability to decode words through the recognition of letter/sound correspondences is vital to early reading acquisition. This test is a non-word decoding test, which specifically targets decoding ability. There are 50 items in the test, which begins with simple Consonant Vowel Consonant (CVC) combinations, such as *buf (buff), cos(coss or coz),* and *dit (ditt)* (target pronunciations are recorded in brackets). The test progresses to multi-syllable invented words such as *sanwixable (san-wicks-able* and *vomazful (voe-maz-full or vom-az-full.* This is not commonly used in schools, but gives an indication of a child's ability to relate letter/sound correspondences, syllable and word level knowledge in a non-contextual environment. As with the Peters Spelling Age Test, it was originally developed more than 30 years ago (Bryant, 1975).

The suggested method of administration involves describing the words as being from an alien language that you (the teacher or researcher) need help with deciphering. This test

was only administered to the participants in Study One, as it is time consuming and not practical with large participant numbers.

4.4 Dialect Density measures

4.4.1 Record of Oral Language. The full version of this test, designed by Clay et al., (1976) requires children to repeat sentences that are read aloud by the tester. Responses are noted in a similar manner to the Running Record of Oral Reading. Normally, errors are counted, and a child's oral ability is given a relevant age. This test is usually administered when a child first starts school in New Zealand to ascertain their oral language ability and provide a starting point for formal literacy instruction. In this research, this test was not used to compare the participants' oral language ability with the norms. It was used as a method of collecting and analysing the speech pattern differences between Standard English and the particular dialect or version of non-standard English spoken by the participants. In Study One and Two, ten sentences were used from this test. In Study One, it was only administered as a pre-test to gather dialect information. In Study Two, it was administered on four occasions, pre, mid and post intervention and again at the six month follow up. The reason for this was to assess if the interventions were impacting on the Oral Dialect Density of the participants. Results of these tests are discussed in the results section of Chapter Six. There are two reasons that this particular test was not used in Study Three. The first is that it is over 30 years old hence some of the words in the sentences would be unknown to the participants, due to the changing nature of New Zealand English, (see Chapter Three). The second reason, is that to successfully determine the impact of an intervention on dialect density, common dialect sensitive sounds should be targeted, hence a specific test was developed for this purpose (Kate Nation, personal communication, 2014; Terry & Conner, 2010; Pearson et al., 2009; Seymour et al., 2005). This test is described in detail below.

4.4.2 Dialect Density Sentence Repetition Test. To establish the level of dialect use by participants a sentence repetition task was created, based on knowledge of common dialect characteristics, gathered form studies one and two. While the record of Oral Language (Clay et al., 1976) had provided useful information in the previous two studies, it had been recommended once again by Kate Nation (personal communication, 2014) and is also discussed in the literature, see Chapter Three, that tests should be specific to the specific language or dialect of the participants involved. In Figure 4.3 below the six sentences are written, with possible dialect differences written below in red font.

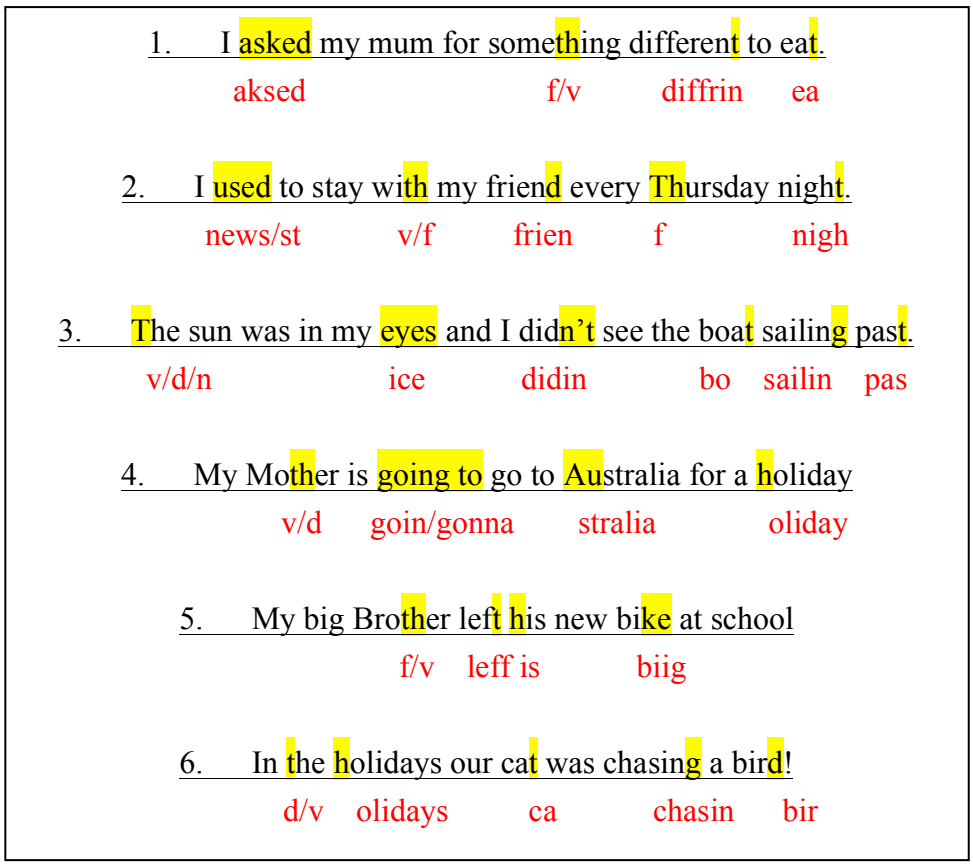


Figure 4.3 Oral Dialect Density Testing Measure.

The results and scoring method for this particular test are presented in the results section of Chapter Seven.

4.5 Word, sentence and text level knowledge

4.5.1 Timed writing sample. This is based on the *Assessment Tools for Teaching and Learning* (Ministry of Education, 2011) model, whereby children are given a topic, by their classroom teacher in this instance, a recount of a school activity that had taken part in. There are three to four phases in this writing process The pre writing phase of this assessment asks the child to complete a short survey of six questions pertaining to their personal beliefs, preferences and behaviour about writing. They then have five minutes to plan their writing, and 20 minutes to write, completely unassisted. There is a matrix of indicators, to allow the teacher or researcher to examine and grade the writing, and subsequently decide if it meets the criteria expected for the learner's age/ year level at school. As can be seen by the matrix of indicators the sample is marked or graded on the surface features of the writing and also the deeper features of the writing. Surface features refer to spelling, punctuation and sentence structure, while the deeper features refer to vocabulary, organisation of the text, ideas and structure and language.

Normal expectation is that children should progress through one level (sub-level) of each curriculum level, every six to eight months of schooling (Ministry of Education, 2009) This measure was assessed by the classroom teachers and/or the school literacy expert.

AsTTle is scored using a matrix of indicators, which are then expressed as a number which equates to the curriculum level and a letter which equates to the ability, from basic, proficient to advanced. However, to enable the information to be displayed I have converted the letter component of the score to a number. Thus basic is expressed as a 1, proficient is expressed as a 2 and advanced is expressed as a 3. All levels are represented as follows:

1b – 1.1 (basic at level one)

1p – 1.2 (proficient at level one)

1a – 1.3 (advanced at level one)

2b – 2.1 (basic at level two)

2p – 2.2 proficient at level two

2a – 2.3 (advanced at level two)

3b – 3.1 (basic at level three)

3p – 3.2 (proficient at level three)

3a – 3.3 (advanced at level three)

This test is not a standardised test, and an explanation of the usefulness of this sample is discussed in Chapter Six.

Specific settings and conditions pertaining to the use of all of these measures are outlined and discussed within each of the relevant chapters. That is; Study One, see Chapter Five, Study Two, see Chapter Six and Study Three, see Chapter Seven.

Chapter Five

Study One: Pilot Study to Investigate Dialect and Intervention Methods

5.1 Introduction

This chapter reports on Study One, a pilot study, designed and undertaken to inform the main study of this research (Study Two, reported in Chapter Six). The purpose of this initial pilot study was firstly to ascertain and document the dialectal characteristics that had previously been noticed in children from lower socioeconomic schools who are struggling to reach age appropriate requirements in reading and writing. Once documented, these differences in productive language will be analysed with regard to the achievements of the children involved and compared to other features of non-standard English in other countries, as well as Māori English and New Zealand English, as described in Chapter Three.

Dialect characteristics and differences in New Zealand have been documented, as discussed in Chapter Three, by a variety of researchers (Bauer & Bauer, 2002; Gordon & Deverson, 1998; Holmes, 1997; Maclagan, et al., 2008; Hay et al., 2008; Schreier, 2003) through listening to children or working with adults within New Zealand. The planning and implementation of an intervention programme to attend to both the cognitive and the dialectal differences of the students, with the aim of improving their performance in literacy, does not appear to have been the focus of recent research in New Zealand to date. This pilot will inform the main (Study Two, reported in Chapter Six), with regard to testing measures, intervention procedures, specific treatment/intervention programmes and time frames for interventions.

5.2 Method

5.2.1 Participants. Through day to day contact with a variety of schools around the district as part of work commitments, one school was specifically selected. It had been noted, on professional visits to this school, that there were many children who met the criteria as far as speech pattern or dialect differences, age and underachievement in reading and writing. The Principal of this low decile school agreed to allow access to two of these children, for the purpose of conducting this pilot study (Study One). The participants were two girls; Charlotte (pseudonym) aged 7.3 years at the start of the pilot and of New Zealand Māori descent, and Helen (pseudonym) aged 6.8 years at the start of the pilot and also of New Zealand Māori descent. According to Cohen et al. (2001) the manner in which these participants were chosen, suggests that it is a convenience sample. Being a sample that has been chosen because of easy access, but which may not be representative of the general population, therefore it is not possible to ascertain generalisations from the data collected.

The first task was to establish that the children were speakers of a non-standard English dialect, similar to the Māori English and New Zealand English as discussed in Chapter Three. Also, to establish if it was indeed similar to the dialect that had been observed in a number of lower socio-economic areas of New Zealand society, as well as within some predominantly New Zealand Māori and Pasifika communities. To facilitate this, time was spent working with the two girls in a non-threatening environment. The popular children's picture book *Oliver goes Exploring* by Margaret Beames (2008), was shared, leading to the creation of an art work over three one-hour sessions. A rapport was established with the children that made the process of formal testing less stressful for the participants. The idea was to have fun, and as can be seen in the following photos. The girls appeared to enjoy their sessions and created some interesting artwork which they were proud of, and which remained on the walls of the classroom for many months after the event.

Once a positive rapport had been established, it was noted that both girls were very excited at the prospect of spending more one-on-one and small group time with me. Most of the children at this school, and indeed many schools on the eastern side of Christchurch, had suffered and were continuing to suffer hardship and disruption on a daily basis due to the earthquake disaster the previous year. Shirlaw (2014) in her article titled *Children and the Canterbury Earthquakes*, reported that children do react differently to traumatic events such as earthquakes depending on their age and the experience they go through. Some children suffer from bed-wetting or nightmares, some exhibit behavioural changes, such as increases in physical symptoms such as headaches and stomach aches, changes in appetite, and depression. She also contends that consistent with international research (Beaubout, 2010) immediately after the earthquakes parents, schools and doctors reported increases in behavioural issues and problems relating to anxiety, depression and stress.

Research in Christchurch by Shirlaw (2014) showed increases in both learning and behavioural problems, such as loss of interest in play, an increase in aggressive behaviours, at separation anxiety, and concentration problems. There were ongoing earthquake aftershocks throughout the time spent with the girls. Shirlaw (2014) contends that this creates a recycling of the trauma. Charlotte had a particularly difficult time as she had to walk more than an hour to school and home each day due to post earthquake living arrangements. The

attention they both received from me during this time was important for both of them, as the almost one-on-one time provided an opportunity for them to talk about their feelings and experiences, and grow a trust that would allow me to comfort them when we did experience earthquake aftershocks.

5.2.2 Measures. One of the aims of this pilot study was to trial different testing measures to ascertain their validity, administration time, and ultimately their usefulness in the context of my future research. Testing mostly took place in an empty classroom at the school attended by the participants. It was carried out over two weeks, during the school's literacy hour (9.15-10.15a.m. each day). The following tests were administered:

i. Alphabet Letter/sound identification test (Clay, 1993)
ii. Peters Spelling Age Test (Peters, 1970)
iii. Independent timed Writing Sample (asTTle, Ministry of Education, 2011).
iv. Non-word decoding test (Bryant, 1975)
v. Burt Word Reading Test (Gilmore et al., 1981)
vi. Phonemic Awareness Test (Roper, 1984)
vii. Running Record of Oral Reading (Clay, 1993)
viii. Record of Oral Language (Clay et.al., 1976)

These tests were chosen because they, with the exception of the Bryant (1975) and Roper (1984), are regularly used in schools throughout New Zealand to enable teachers to make judgments as to whether or not their students are at the National Standard required levels, as discussed in Chapter Three. Consistent with the discussion of the New Zealand education situation, in Chapter Two, and its strong connections with constructivist theory, the Bryant (1975) and Roper (1984) tests were added, to enable ability in word-level skills to be assessed. These skills are underpinned by other theories and models of literacy acquisition

such as the Simple View of Reading and the Component View of Reading (Tunmer et al., 2015) . A full description of these testing measures is found in Chapter Four of this thesis. Circumstances particular to this study and the two participants are described below.

5.2.2.1 Running Record of Oral Reading. Because this pilot study was of an exploratory nature, it was decided that this assessment would be administered during the time allocated for this research. As a registered primary school teacher, experienced in taking Running Records and understanding the criteria and procedure, as discussed in Chapter Four, that needs to be followed to ensure the assessment is as accurate as possible, this was not detrimental to the data gathering process. The classroom teacher provided the instructional reading level of both participants, enabling me to choose an appropriate text for them to read. Copies of Charlotte and Helen's pre intervention Running Records are available in Appendix Three.

5.2.2.2 Timed writing sample. An assessment had been administered to the whole class by their classroom teacher during the same week that the girls first had the shared story and art session. Thus, the sample from the whole class assessment was used rather than place the girls in the situation of having to complete another writing sample, when they would be facing a battery of testing in the coming week(s).

5.2.2.3 Record of Oral Language. As described in Chapter Four, this is usually used to assess a child's oral language competency when they first start school. However, this test was not used to compare the participants' oral language ability with the norms. It was used as a method of collecting and analysing the speech pattern differences between Standard English and the particular dialect or version of non-standard English spoken by the participants. It was not administered post intervention, as it was viewed as a data gathering process only, as opposed to a measure of progress in literacy skills.

5.2.3 Administration of measures. Each child was tested individually, with the

exception of the Peters Spelling Age Test, which both participants completed at the same time and as mentioned, the timed writing sample, which was administered by the classroom teacher. All tests were administered in the order set out above. The reason for this particular order, was to 'break' the sessions up, so that they did not feel they had to do too much reading, writing or listening on any particular day. Time available was also considered, as all schools, despite excellent forward planning, have events and activities that take precedence and these needed to be worked around as well. Initial testing was used to inform the intervention measures.

5.2.4 Analysis of the test measures. The results from the initial testing were carefully analysed to identify specific needs for each of the girls. Results of the pre-intervention testing and post-intervention testing are discussed in the results section of this chapter. The following differences were noted between the two girls, which informed the intervention design for each participant. Results are displayed in Table 5.1.

Table 5.1 Results of initial testing measures

Test	Charlotte	Helen
Chronological age	7.3	6.8
Alphabet:		
Unknown/confused letters	11/54	1/54
Roper Phonemic Awareness Score	13/42	18/42
Bryant non-word decoding score	1	0
Burt Word Reading Test		
Number correct	7	20
Reading age	5.6	6.2
Peters Spelling Age Test		
Number Correct	4	16
age in years	5.5	6.7
asTTle writing	< Level 1	Level 1i
Running record	Instructional level 2	Instructional Level 9

As shown in Table 5.1, in the sections, Running Record, asTTle timed writing sample and Peters Spelling Age Test, Helen performed better than Charlotte, however, as shown in the Bryant non-word decoding test, Helen was not quite as good. Her alphabet letter/sound knowledge, indicated by the alphabet/letter sound identification test, was also better, but was not seemingly having a positive impact on her decoding. The approach decided on for Helen was to look at whole words, sentences, meanings of words and onset/rime patterns. The test results indicated that Charlotte still needed more work at the alphabet and sound stage, thus this was more of a focus for her sessions. The intervention programmes are described in the next section.

5.2.5 Intervention Measures. After the testing, each participant subsequently received eight weeks of an intervention programme designed to target their specific needs.

As each participant received approximately 40 minutes per week, in two separate sessions, working one-to-one with myself, it was possible to create individual plans to suit their needs. However, both participants worked together playing some word level and rhyming games with me for a period of 20 minutes of each session. Word level activities involve a focus on the parts of words such as phonemes and syllables and are underpinned by cognitive theories of literacy acquisition, as discussed in Chapter Two. This was based on the last 10 minutes of the first participant's session, and the first 10 minutes of the second participant's session. Both participants enjoyed these sessions and indicated that they loved learning by games. It was encouraging to arrive at the classroom and to be greeted by smiling faces and comments such as "Can I please go first". Or "Yay, we get to go with Janice now"! Other class members were obviously curious as to what we were doing and had gleaned that it must be enjoyable, hence they too would start a chorus of "Can I go with you too?"

During this time, particular attention was placed on aspects of speech differences between their non-standard English and Standard English, as identified in the testing process. Such as:

i. Oral rhyming games: For example, the session would start with a question such as "Who can think of a word that rhymes with thing?" If neither of the participants could think of an answer, I would provide one as a starting point. Such as, "Oh, ring! I have a ring." Paying particular attention to the endings of words that both students had shown to leave off or change, such as the g/k switch, while also modeling the correct pronunciation of /th/. When one of the participants successfully thought of a rhyming word, it would be their turn to start a new rhyme sentence.

ii. Onset/rime activities: This activity involved making real and non -words orally, modeling correct pronunciation, making a game of the non-words

aspect, for example, ‘ask’, t-ask, fl-ask, m-ask, d-ask (dask, does that sound like a real word? Oh no you must be aliens!). There was no written work involved in this. It was intended to assist in phonological rather than orthographic awareness.

iii. Picture/word bingo: Using Gillon’s (2004) picture bingo cards (see sample below), we played standard bingo, where would say the name of the object, for example duck, and they would place a token on that picture if they had it on their board. The game was also modified to include specific sounds that targeted dialect differences, such as the /th/ fronting, for example, “Who has a picture with a /th/ sound in it like feather?”

Or “Who has a picture that ends/begins with w /th/ sound?”

Gillon PAT Programme: Phoneme Segmentation Bingo

During the time available for this study, all common speech/sound or dialect differences, as displayed in Table 5.4 in this chapter, were able to be covered. The aim was

not to influence or force the students to change the way they spoke, but rather to model and point out the correct pronunciation. Participants were assured that it was alright to say the words the way they do, but that at school they need to remember the different way they are written, which will help with their reading too. These sounds were reinforced in the spelling component of their individual sessions. Individual sessions followed the format reported below.

First session of the week with Charlotte

1. Oral reading with attention to identifying initial sounds to help work out unknown words. (10 minutes)
2. Phonemic awareness activities, rhyming, phoneme deletion and blending (Gillon, 2004). (10 minutes)

Second session of the week with Charlotte;

1. Alphabet knowledge, using alphabet matching flash cards and memory game using upper case and lower case letters. (5 minutes)
2. Guided writing and spelling (15 minutes)

First session of the week with Helen

1. Oral reading with focus on final sounds to ensure correct unknown word as opposed to a guess. Clarifying with meaning. (15 minutes)
2. Written onset/rime activities on whiteboard or with magnetic letters. (5 minutes)

Second session of the week with Helen

1. Guided writing with focus on sentences and using onset/rhyme knowledge to spell correctly. (20 minutes)

5.3 Results

Subsequent to the intervention process, the participants were tested again to ascertain

progress. The following Table 5.2 shows the pre and post intervention test results and the oral language/dialect results for Charlotte.

Table 5.2 Test Results for Charlotte

Test	Pre intervention	Post intervention
Alphabet total	11	4
unknown letters	V v I i a	k/q u/y
confusions	k/q d/w u/y	
Roper Phonemic Awareness Score		
Blending	13/42	18/42
Del 1st Phoneme	4	6
Del final phoneme	3	4
Segmenting	0	1
Substituting 1st	2	3
Substituting last	0	1
Ending substitutions (total)	7	3
Examples	t/ m,n,k,p	t/k, p
	th/n	th/n
	b/m	
	d/n	
Bryant non-word decoding score		
Descriptive analysis	1 – (cos)	3 – (cos, dit, kib)
correct initial sounds		
correct final sounds	2 - p, l	4– p, l, m, n
substitutions	2 - z, f	3 – z, f, v, d
	t/f, p/b, g/t	t/f, g/t
Burt Word Reading Test		
Number correct	7	10
Reading age	5.6	5.7
Descriptive analysis	sounding out, not blending to correct word, e.g., s-a-d-done/sad,	

Peters Spelling Age Test		
Number Correct	4	7
age in years	5.5	5.8
Descriptive analysis Grapheme		
substitutions	q/c n/f f/v l/r	q/c, l/r
Grapheme deletions	final /t/	-
AsTTle writing	< Level 1	Level 1i
Running record	Instructional level 2	Instructional level 5
Record of Oral Language		
Omitted endings	d, t, g, s, n	
Subs. ending	er/a	
	ren/ri	
	ll/r	
	n/d	
	m/b	
	or/a	
Subs. Medial	th/v	
sounds	th/d	
	th/f	
	t/d	
	d/t	
	ur/a	
Subs. initial sounds	th/fr	
	th/d	
	tr/ch	
	el/al	
	p/pl	
Word substitutions	Going to/gunna	
	Asked/aksed	
	Use/news	
	Will/won't	
	Because/cos	
	Kind of/kina	
	Very/rilly	

5.3.1 Explanation of the results. Table 5.2 shows the results for Charlotte, pre and post the intervention, for each of the tests. In the alphabet letter/sound results, Charlotte had three unknown letters prior to the intervention. These were resolved post the intervention. Letters she confused are displayed with the target letter first and the second letter being the one indicated by the child. For example, Charlotte said 'q' when the actual letter was a 'k' and so on. In the post test, she had resolved her d/w confusion.

The Roper Phonemic Awareness test had a total of 42 items, seven items per sub-group. The total out of 42 is indicated, and also broken down into the number correct per sub-group. The sub-group tasks were: blending of phonemes, deletion of first phoneme, deletion of last phoneme, segmenting phonemes, substituting first phoneme and substituting last phoneme. Confusions in final phonemes are indicated with the target phoneme written first and the actual phoneme used second. This particular test was designed for use with American children and therefore has not been standardised for use with New Zealand children. However, Nicholson (2005) developed some expectations for use with New Zealand children. Therefore, based on these documented expectations for New Zealand children, Charlotte would be classified as being average for five year olds at the end of their first year of school, from the results of the pre test. This is two years below where she should have been for her age and year level, as she was at the end of Year Three. Although she improved her raw score in the post test, it still places her in the same age bracket as indicated by Nicholson (2005).

Charlotte performed poorly in the Bryant Test of Basic Decoding, in the pre test, therefore information regarding her attempts were recorded to provide further information as to the possible influence of non-standard English on her reading skill development. Charlotte correctly read the first 'non-word'. The results show her errors and confusions, with the target letter first and the actual letter said, given second. She paid little or no attention to final

consonants, which appears to reflect the results of her spelling testing, where she left off the endings of words such as los/lost. In the post test, she improved her score slightly. It is of note that she also recognised more initial and final sounds and resolved her p/b confusion.

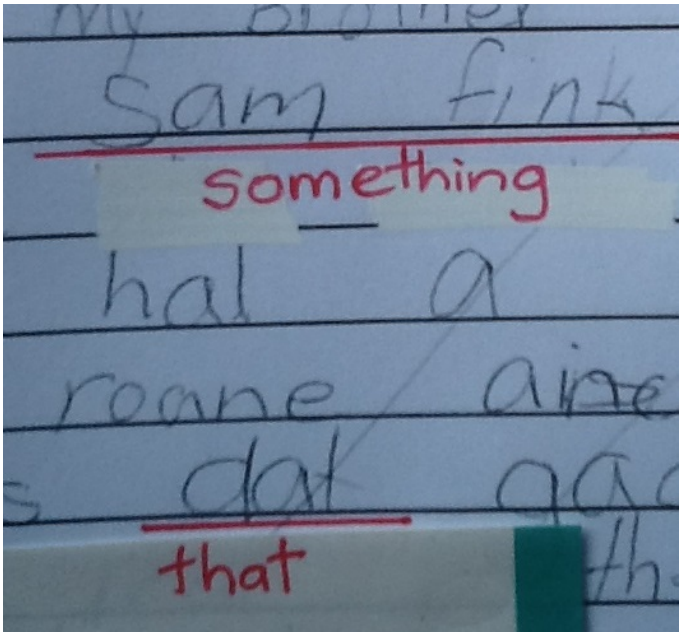
In the Burt Word Reading Test, Charlotte recorded a particularly low score, which placed her at the level of a child aged five years and six months. While the post test result shows that she is still working below the expected level, and more than two years behind her chronological age, she did improve her raw score, which included instant recognition of *sun, of* and *we*t, which she initially read as; *yes, toe* and *yet.*

The Peters Spelling Age Test results show the raw score and the spelling age, calculated using the normed table. The descriptive analysis shows the errors that were made. Once again, the target letter is shown first and the actual letter written by Charlotte is given second. Thus, Charlotte wrote the letter 'v' when and 'f' was required, and an 'r' when an 'l' was required etc. She failed to have final consonant 't' on words that required it, such as sit, lost, dart. This type of information is not usually gathered when a spelling age test is administered, but the information is relevant to the speech/dialect differences under investigation in this study. In her post-test, Charlotte had improved her raw score by three words and spelling age by 12 weeks within the eight weeks. This is significant given that after two years of schooling, she had reached the spelling level expected of a student that had been at school for twenty weeks. Of note, is that the words she correctly spelt in the post-test, were words that showed she had resolved her n/v and f/v confusion as well as the final /t/ sound on the word lost.

In the writing sample, Charlotte was below the expected level for her age, and for year three students. In New Zealand, level 1 of the teaching curriculum spans the first three years of schooling for all curriculum areas, (Ministry of Education, 2009a). At the end of their third year of schooling, it is expected that students should be level 1A, curriculum level 1,

Advanced or level 2B, curriculum level 2 basic (Ministry of Education, 2009a, 2011), as described in Chapter Four. Charlotte was working below level 1B, curriculum level 1 basic in the pre-test and at level 1B, curriculum level 1, basic in the post test. The level is determined upon surface and deeper features of the writing. As previously discussed in this chapter, the classroom teacher both administered and marked the writing samples. From personal experience as a classroom teacher, the grades assigned to students using the marking matrix can be subjective, with different assessors interpreting the matrix indicators in different ways. It is not a standardised test, therefore is just an indication that some progress may have been made.

It was interesting to note the influence of her dialect in her writing. For example:



In this photo from Charlotte's timed writing sample, two examples of the transfer of her productive speech are transferred through to her writing.

The word *something* is writing with the substitution of the medial 'th' for 'f' and the final 'ng' for 'k'. Subsequently, in the word *that,* she replaces 'th' with 'd'. also, consistent

with her failure to pay attention to the final consonants of words, she has written *roane* for round.

The results of the Running Record of Oral Reading, shows the children's instructional level, based on the Reading Recovery levels (Clay, 1979). These results show that Charlotte is reading at the level expected of a five year old having been at school for approximately 2 months. Given that her age was 7.3 years at the start of the study, this placed her two years behind the expected level for her age. Charlotte's post-test Running Record indicates that she moved up three Reading Recovery levels. This still places her in the 5-5.5 year age range. It is expected that children in their first year of schooling will move from Reading Recovery level 0 to Reading Recovery level 14, and that for a child who had been at school for two years and three months as Charlotte had at the beginning of the study, they would be reading books in the Reading Recovery level range of 17-18 (see table of levels and ages in Appendix two).

In the Record of Oral Language, the detailed results recorded indicate the importance of this raw data to the understanding of the speech pattern differences the children have, whether or not it equates to previous research on non-standard English, Māori English and New Zealand English and the differences between their speech patterns and Standard English. While all of Charlotte's phoneme omissions and substitutions, and word substitutions were recorded in the pre-test, they were not in the post test, as there was no overt focus in this study on changing the speech sounds. Whether or not this will be tested more regularly in further studies will be discussed in the discussion section of this chapter.

The results for the other participant, Helen, are recorded in Table 5.3.

Table 5.3 Test Results for Helen

Test	Pre intervention	Post intervention
Alphabet total	1	-
unknown letters	-	-
confusions	j/dr	-
Roper Phonemic Awareness Score	18/42	25/42
Blending	6	6
Del 1st Phoneme	2	3
Del final phoneme	5	6
Segmenting	6	6
Substituting 1st	1	3
Substituting last	0	1
Ending substitutions (total)	9	2
Examples	t/ g, m,b, k	t/k
	d/t, p, ve	d/t
	m/s	
	n/g	
Bryant non-word decoding score	0	6 – (buf,cos, dit, lek,
Descriptive analysis	1 – (cos)	rel, bime)
correct initial sounds	10 – (b, k, d, f, g, j, h, l,	33
	m, n)	
correct final sounds	0	8 – f, t, b, d, v, I, p, c
substitutions	2	0
	b/d, d/t	
Burt Word Reading Test		
Number correct	20	24
Reading age	6.2	6.5
Descriptive analysis	approximating using	/th/ word correct
	initial sound e.g.	
	pot/people,	
	Quickly/quit, carry/car,	
	nurse/nosh	
Peters Spelling Age Test		
Number Correct	16	18
age in years	6.7	7.0

Descriptive analysis		
Grapheme substitutions	p/t, v/f, y/re,c/s,er/oo	
Grapheme deletions	ice/eye	
	final /t/	
AsTTle writing	Level 1i	Level 1ii
Running record	Instructional level 9	Instructional level 11
Record of Oral Language		
Omitted endings	t, g, p, ck, s, v	
Subs. ending	er/a	
	ll/r	
	th/f	
	or/ar	
	ur/a	
	y/d	
Subs. Medial	th/f	
sounds	th/d	
	th/v	
	p/b	
	i/e	
Subs. initial sounds	tr/ch	
	th/fr	
	th/d	
Word substitutions	fly/flew	
	going to/gunna	
	used/news	
	very/redy	
	isn't/not	
	were/was	
	asked/aksed	
	you/ya	
	because/cos	
	kind of/kinda	
	that/what	

Table 5.3 shows the results for Helen, pre and post the intervention, for each of the tests. Helen knew all her alphabet letters and sounds. She had no errors, and only one

confusion in the pre test, j/dr, which was resolved in the post test. This confusion could be attributed to the nature of New Zealand English as outlined in research in Christchurch by Hay et al. (2008) and discussed in Chapter Three. They explain that:

> A relatively recent sound change to arrive in New Zealand is tr-affrication. This is a process that injects even more frication in to /tr/ and /dr/ clusters so that they sound like full affricates with rounded lips and the tongue slightly farther back in the mouth…..dream sounds like jream. (p.36)

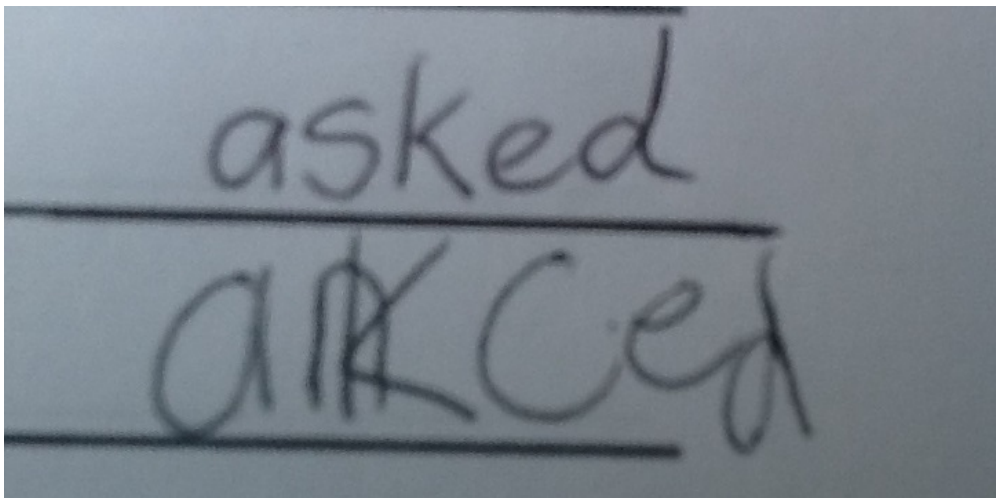
Helen scored 18 out of the 42 items in the Roper Phonemic Awareness Test. She had the most difficulty with substituting final phonemes. Based on the expectations for New Zealand children by Nicholson (2005), she was classified as being average for a five year old at the end of their first year of school. Once again, this is two years below where she should be for her age and year level, which is six years and eight months, and in year three at school. Despite improving in the post test raw score, she remains behind where she should be, but is at the level of a six year old at the beginning of the school year.

In the Bryant Test of Basic Decoding Skills, Helen was not able to decode any of the non-words initially. The results show her errors and confusions, and as with Charlotte, she paid little or no attention to final consonants, but was able to identify ten initial sounds. In her post test, Helen identified 33 initial sounds which was an improvement on her pre test. The test requires that the participant can discontinue after ten errors, and in the post test Helen was able to attempt 33/50 non-words.

In the Burt Word Reading Age Test, Helen initially recorded a raw score that placed her six months behind her chronological age. Her improvement in the post test was 12 weeks (three months) higher than the pre test, over an eight week intervention. She correctly read a ‘th’’word that had been incorrect in the pre test.

In her Peters Spelling Age Test, Helen had a raw score of 16, which calculated to a spelling age of 6.7 years. This was close to her chronological age at the time of pre testing, which was 6.8 years. Post intervention, she had a raw score of 18, which is a spelling age of 7.0 years. This is a 12 week improvement over the space of the eight week intervention. As with Charlotte, this is significant because after the intervention, she had a spelling age beyond her chronological age.

Helen was working at level 1B, curriculum level 1, basic in her unassisted, timed writing sample before the intervention. This equates to two levels below where she should have been. After the eight week intervention, her writing sample was at the level 1P, curriculum level 1 proficient (Ministry of Education, 2011). While this is still below the expected level for her age, this was an improvement of one level over eight weeks. It was interesting to note that Helen actually attempted to write *asked* as *akced* in her writing sample (see photo below). This was pertinent, as it seemed clear that the impact of her dialect was actually influencing her writing.



The results show the Running Record of Oral Reading before the eight week intervention, and indicate that Helen, working at instructional Reading Recovery level 9, was

at the expected level for someone who had been at school for six to seven months. This is one year below the expected level for her age. Her post intervention instructional level was 11. This is a gain of two Reading Recovery levels over the eight weeks. Despite this gain, she remained three levels below the level expected for someone who had been at school for one year, whereas, she had been at school for almost three years at the end of the intervention

The Record of Oral Language results, presented in table 5.4, shows the differences between Charlotte and Helen's non-standard English and Standard English. It also shows that even though correlations were not carried out due to the small numbers of participants, there appears to be some correlation between the omissions and substitutions of words and sounds in their speech, and the omissions and substitutions in their reading and spelling. The two participants' results were compared.

Table 5.4 Comparison of Record of Oral Language findings for the two children at pre testing.

	Charlotte	**Helen**
Omitted endings	d, t, g, s, n	t, g, p, ck, s, v
End sound substitutions (actual ending first followed by ending produced)	er/a ren/ri ll/r n/d m/b or/a	er/a ll/r th/f or/ar ur/a y/d
Medial sound substitutions (actual medial first followed by medial produced)	th/v th/d th/f t/d d/t ur/a th/fr	th/f th/d th/v p/b i/e
Initial sound substitutions (actual initial first followed by initial produced)	th/d tr/ch el/al p/pl	tr/ch th/fr th/d dr/j
Word substitutions (actual word/phrase first followed by word/phrase produced)	going to/gunna asked/aksed use/news will/won't because/cos kind of/kina very/rilly	fly/flew going to/gunna used/news very/redy isn't/not were/was asked/aksed you/ya because/cos kind of/kinda that/what

5.3.1.1 Commonalities. As indicated in the displays of the raw data in tables 5.1, 5.2 and 5.3, it was noted that there were many characteristics, both cognitive and sociocultural (dialectical) that were common to both participants. For example:

In their spelling, they both were missing final t off words, and exhibited /th/fronting by f/v substitution in the beginning and middle of words.

Consistent with research by Gillon (2004) and Nicholson (2005) they displayed difficulty with phonemic awareness, particularly with poor Substitution of 1st phoneme and last phoneme, deletion of 1st phoneme. This was through confusing t with k and m, at the end of words. There was a lack of ability to recognise rhyming words, although Charlotte was extremely poor at this, and appeared to believe rhyming words were words that started with the same sound.

In their Record of Oral Language testing they also shared some common traits. For example

i. Omitted endings (t,g,s)
ii. Substituted endings (er/a, ll/r, or/a)
iii. Substituted medial sounds (th/v, th/f, th/d,)
iv. Substituted initial sounds (th/fr, th/d, th/ch)
v. Substituted words (going to/gunna, asked/akced, use/news, because/cos, kind of/kina/kinda

As this data are pertinent to this study and further studies described in Chapters Six and Seven, it was important at this point to consider comparing the similarities between the two girls non-standard English, with Māori English (Holmes, 1997; Maclagan et al., 2008), New Zealand English (Hay et al., 2008) and African American English (Craig & Washington, 2004; Thompson et al., 2004; Ivy & Masterson, 2011; Washington & Tate, 2015; Wilcox &

Anderson, 1998) as discussed in Chapter Three. By making comparisons, it may be possible to establish if this particular non-standard English is purely New Zealand English which is evolving, as discussed in Chapter Three or if it is possibly a new dialect as yet unreported in New Zealand research. Table 5.5 represents these commonalities.

Table 5.5 Common features between participants, Māori English (ME), New Zealand English(NZE) and African American English (AAE)

Characteristic	**Charlotte and Helen**	**ME**	**NZE**	**AAE**
Devoiced /z/	yes	yes	no	yes
Th fronting	yes	yes	yes	yes
Dropped /h/ (unstressed)	no	no	yes (unstressed)	no
Non-rhotic	yes	no	yes	no
r-linking	yes	no	yes	no
Retroflexed r	yes	no	yes	
Glottal stop /t/ final /d/ final	yes yes	yes yes	yes no	yes yes
Intervocalic flap /t/	yes	no	yes	yes
Loss of veralised /l/	yes	no	yes	yes
/hw/ use	no	no	no	no
Tr affrication	yes	no	yes	yes
St/sk as shch	no	no	yes	yes
Near/square merger	yes	no	yes	yes
Used/newsd	yes	no	no	no
Omitted s	yes	no	no	yes
Omitted g	yes	no	no	yes
g/k substitution	yes	no	no	yes
/l/ vocalisation	no	no	no	no
Devoiced D G B	 Yes Yes Yes	 No No No	 No No No	 yes yes yes
Asked/aksed	Yes	No	No	Yes

As can be seen from Table 5.5, the particular dialect or brand of non-standard English spoken and written by Charlotte and Helen, shares some common characteristics with Māori English, New Zealand English and African American English. Commonalities are highlighted in this table.

5.4 Discussion

The purpose of this study was firstly to ascertain the dialectical differences purported to be prevalent in children from lower socioeconomic schools who are struggling to reach National Standards requirements in reading and writing. Although only two students were involved, they gave a 'snapshot' of the types and forms of language differences or dialect differences that are prevalent in lower socio economic areas and lower decile schools within New Zealand.

The results of the initial testing revealed that the variety of non-standard English being spoken, by these particular children, shares many of the characteristics of Māori English, New Zealand English and African American English. This confirms my initial contention that there is a non-standard form of English currently evolving that is similar to African American English, and a slightly different to the previously researched New Zealand English and Māori English in New Zealand as discussed in Chapter Three. It also serves to strengthen the notion that dialect differences and the density of these differences could have an impact on children's ability to attain literacy skills that are appropriate to their age and time in formal schooling.

The testing process also provided information as to which types of measures were valid and viable to be used with a much larger group of participants. Following this study, it was decided that certain testing measures were time consuming and not entirely relevant to the outcomes of a larger, experimental intervention study. These were the Running Record, and

the timed writing sample. Information pertaining to these could be gathered from classroom teachers, and subsequently used as an initial benchmark in choosing possible participants for a further study. Also, the Bryant Non-word decoding test and the Alphabet letter/sound correspondence test proved to be time consuming and were subsequently not used in the later two studies.

While the results of the post testing revealed that gains had been made in reading, writing and spelling for both participants, it is important to note the relevance of these gains in the context of the expected gains for a normally progressing student.

5.4.1 Reading progress. Between the ages of five and six, children are expected to progress through 14 levels (Ministry of Education, 2009). This equates to one level approximately every three and a half weeks. Charlotte gained three levels over the eight weeks and Helen gained two levels. Therefore Charlotte made progress faster than the expected rate, which when you take into account that she had only progressed two levels in two and a half years, exceeds the previous outcomes for her. Helen progressed slightly behind the expected rate for a normally developing reader, but once again, given that she had progressed nine levels in two and a half years, the progress was better than her previous progress rate.

5.4.2 Spelling progress. Helen's result in the Peters Spelling Age Test was four weeks below her chronological age in the pre -test and eight weeks above in her post test. This gain is faster than would be expected for a student progressing at the normal rate. Of importance to this study was that she correctly applied the final /t/ consonant, which had been a focus of the non-standard English /Standard English component of the intervention.

Charlotte also progressed at a rate higher than expected over an eight week period. Previous to the intervention she had progressed five months in spelling age over two and a half years, thus a gain of three months in the eight weeks appears significant.

5.4.3 Writing progress. The asTTle writing sample, while showing rapid progress, normal progress would be one level every six to eight months (Ministry of Education, 2009), can be construed as being subjective in its method of analysis. In a school context, teachers would moderate writing samples to diminish the scope for error. While surface and deep features are analysed in the writing, the gains made by the participants were primarily in the spelling and punctuation, therefore allowing the judgement that gains had been made. When teachers are making judgements as to whether a student has attained the level required to be where they should be with regards to New Zealand's "National Standards", spelling and punctuation within their writing is apparently no more or less important than the other features mentioned, but from personal experience, there is a tendency to see these features first and grade them accordingly. Poor spelling and punctuation, in a writing sample that has better quality deeper features such as vocabulary, will seemingly still be given a poor grade.

The aim of the intervention was to improve the literacy levels of students who are not only struggling, but also speak a form of non-standard English. It should be acknowledged that some of these changes could also be attributed to classroom teaching practices. Additionally, it may have been due to the Hawthorne Effect (Landsberger, 1958), which contends that participants in studies or research, will make gains or improve their performances by the mere fact that they are receiving more attention. In the case of the two participants, they were receiving one-to-one attention for almost two hours a week, which may have been a catalyst for change. Similarly, the gains may also have been attributable to a regression effect, where smaller 'class' sizes yield better results (Cohen et al., 2001). However, the results do show that areas that were specifically targeted, such as the 'th' fronting with Helen and the alphabet letter/sound knowledge with Charlotte, were the areas that showed improvement in both reading and writing for both students.

As previously mentioned, the situation in Christchurch at the time of this case study,

was such that these two girls, along with their entire school, family and wider community, had and were enduring extreme circumstances due to earthquake disruptions. Learning opportunities had been seriously disrupted the previous year when the school was closed for a length of time after the first major earthquake in 2011. Apart from the school disruptions, living conditions, including basic living facilities such as power, water, effluent disposal, were also disrupted and were still a factor at the time of this study with the school requiring portable toilet facilities.

While this may not appear to be an influence on the learning of the participants, it was clear from discussions with the classroom teacher and the Principal, that both girls had been through a fair amount of trauma around the time of the earthquakes, and as is sometimes seen in low socioeconomic households, the financial stress in the wake of the earthquakes had also taken its toll on their families. This was evident with Charlotte currently living with a grandparent rather than her mother, which necessitated the longer than normal walk to school each day. Given these conditions, the progress made was very relevant and pleasing for the teachers and caregivers, as they had expressed concerns during informal discussions pertaining to the intervention and the progress of the girls.

5.5 Conclusion

Due to the positive findings of this study, further research in the form of a larger intervention study was carried out. The aim was to ascertain with more statistical accuracy, the benefits of providing a literacy intervention with an added component focused on making children aware of dialect differences (meta-awareness). It was felt that children need to celebrate their own dialect, but at the same time know how to write and comprehend texts written in Standard or School English.

Ivy & Masterson (2011), when referring to speakers of the African American

Vernacular English dialect, state that:

> it stands to reason that purposeful guidance by clinicians or teachers in the skill of shifting from the home language to the school language could positively affect the persistent achievement gap that our educational system continues to experience (p.37).

Thus, further research that investigates the manner in which we can address children's dialect differences, its impact on learning and how to remediate through early literacy interventions that involve enhancing the meta-awareness skills of dialect shifting, will allow us to more adequately answer the question, "Is it possible to help remediate difficulties in reading and writing by adding a focus on Dialectal Awareness to a literacy intervention"?

This study, Study Two, is the subject of the following chapter.

Chapter Six

Study Two Quasi-experimental Intervention Study

6.1 Introduction

Children enter school with varying degrees of 'readiness'(see Chapter Two), and an issue that stands out for teachers, particularly those in lower socioeconomic areas, is the disparity in oral language competencies for some children. While not officially speech impaired, these children sometimes speak a dialect of English that varies from the Standard English expected at school. As was discovered in Study One, discussed in Chapter Five, the non-standard English encountered thus far appears to be a mix of New Zealand English, Māori English including aspects commonly seen in African American English, with some new, previously unidentified characteristics, as highlighted in Chapter Three.

The present research investigated the potential link between low literacy acquisition levels and increasing children's meta- awareness of dialectal differences between their own non-standard English as spoken by many children from lower socioeconomic schools in New Zealand in normal day-to-day conversation, and the Standard English used as the basis of literacy learning. The belief was that, once acknowledged, these differences between spoken language and literacy-language could be used to support children's understanding of the link between literacy and language.

6.2 Aim

Following on from the pilot study, Study One, the aim of this research was to investigate the impact of including a meta-awareness of dialect difference (dialectal awareness) within and in addition to a phonemic awareness early literacy intervention. At the same time, the impact and effectiveness of teaching meta-awareness of dialect difference

(dialectal awareness) on its own as a form of intervention, was to be investigated. It was hypothesised that the inclusion of a Dialectal Awareness component, in addition to a phonemic awareness intervention programme, would produce greater gains in literacy skills, particularly whole text and word reading, spelling and writing skills, for students who showed evidence of common use of non-standard English and low literacy levels.

6.3 Method

6.3.1 Design. To enable data to be gathered, compared and correlated, and to subsequently draw conclusions as to the effectiveness of directly teaching awareness of participant's dialect differences, an experimental design was originally considered. However, given that a true experimental research design requires participants in the groups to be randomly assigned from an initial random sample of people (students), in this context it would not have been possible to achieve this. The effectiveness of the treatment, namely, teaching meta-awareness of dialect difference was perceived as being relevant only to those who display the productive language characteristics of the non-standard dialect documented in Study One.

Also, the criteria of being behind in literacy attainment when compared to cohorts, was vital, given that the investigation focused on (tier three) early literacy interventions. By definition then, the initial sample size had defining characteristics that excluded some children.

Underpinning true experimental design is also the accuracy of the measures, to answer the research questions and the provision that all treatments are the same, apart from the independent variables.

Bearing this in mind, it is more accurate then, to describe the research design as being quasi-experimental, where the sample is non- random and the groups have non-equivalent

assignment. How well the research design met criteria of external, internal and construct validity will be covered in the discussion section of this chapter and also in the general overall discussion in Chapter Six.

6.3.2 Participants. Initially six primary school Principals, all in the eastern suburbs of Christchurch were approached via written contact (see Appendix one). These schools were purposively selected using the following criteria:

i. Schools were considered to be a 'low decile school', or more commonly referred to as low SES schools (See Chapter Two).

ii. Based on personal experiences of schools within Christchurch, they were known to have a relatively large number of children who were likely to meet criteria of speech pattern or dialect differences.

iii. The schools were also selected because they were known to have above average (based on New Zealand wide cohort base as discussed by Principals of the schools, when visited during work related rather than research related visits to the schools by the author) numbers of children in the desired age range who were also underachieving according to the New Zealand National Standards (Ministry of Education, 2009) in reading, spelling and writing.

From the initial six schools approached, one school failed to reply to the written contact, and one expressed concern that they already had a number of other research projects going on in the school and they didn't want to compromise the classroom teachers' individual classroom programmes. Of the remaining four schools, three were decided upon based on the following criteria.

i. The Principals agreed to allow access to children for the purpose of conducting this study (ethical approval was also obtained from a university

ethics committee, available in Appendix one).

ii. Written permission was granted by parents or caregivers of prospective participants.

iii. Classroom teachers and literacy advisors, where applicable, agreed to having their students participate in the research.

A large sample, or number of participants was deemed to be required, to enable the independent variables (interventions), to be statistically reliable (Cohen et al., 2001), thus over 100 children were initially sought. At the suggestion of the various classroom teachers, this was based on reading of connected text and writing ability as assessed by classroom methods, namely the Running Record of Oral Reading (Clay, 1993) and asTTle timed writing sample (Ministry of Education, 2011), (see descriptions below). These 100 children were all initially tested on spelling ability by using the Peters Spelling Age Test (Peters, 1970). Thus, 80 participants were chosen to take part in the intervention study.

As previously mentioned, it was not logistically possible to randomly assign the 80 participants to the desired four groups. The main reasons for this being:

i. The geographical locations of the schools, in relation to each other, meant that students from within each school had to work together. There was no option to bring the students together in a neutral place at allocated times, to deliver the interventions.

ii. One school was somewhat larger than the other two and therefore had more participants.

iii. It was essential to create the least possible amount of disruption to the daily classroom teachers as possible, both for the benefit of the participants and the other classroom members.

iv. All programmes and testing measures, excluding the Running Record of Oral Reading and asTTle timed writing sample were researcher delivered and administered, which created a time constraint, but helped with securing an element of adherence to the theory that all the testing should be the same (Cohen et al., 2001).

Before assigning participants to specific groups, a battery of tests was administered to each of the chosen 80 children. The measures used are listed below, including those carried out by the classroom teachers as part of the initial screening process. Full descriptions of these measures are found in Chapter Four. The following measures were administered by the researcher:

i. Peters Spelling Age Test (Peters, 1970).
ii. Burt Word Reading Test (Gilmore et al., 1981).
iii. Phonemic Awareness Test (Roper 1980, Nicholson, 2005).
iv. Record of Oral Language (Clay et al., 1976).

The following two measures were administered by the participants' classroom teachers or school based literacy teachers:

1. Running Record of Oral Reading (Clay, 1979).
2. asTTle (*Assessment Tools for Teaching and Learning*) timed writing sample (Ministry of Education, 2011).

The Peters Spelling Age Test was administered to groups of prospective participants at each school. Following on from this measure, prospective participants were tested individually on the other three researcher measures. The aim was to withdraw each candidate

to a quiet space where the tests could be administered uninterrupted. In the two smaller schools, this was easily accommodated, but in the larger school, some testing measures were administered in the small office spaces adjacent to the classrooms, which did not have a door. Thus, some classroom noise may have distracted some participants.

The information from the Running Record of Oral Reading and asTTle timed writing sample were used by the teachers as a means of nominating possible participants. Children were nominated because they were performing below expected levels for their age in both these areas. This information, combined with the testing measures administered individually and as a group, informed the choice of 80 participants for the study.

The original 80 participants were split into four groups of 20, with each group designated a different intervention for the first eight weeks of the study. Unfortunately, during the course of the interventions and follow up process (15 months) 20 children left the programme, due to a variety of reasons, such as moving schools or going on to government funded intervention programmes with the Resource Teacher of Literacy, which was organised by their schools. Of the 60 participants who remained in the study for the full duration, the composition was as follows; 30 Males, 30 females, 21 New Zealand European, 31 New Zealand Māori and 6 Pasifika children. One participant was described as New Zealand Māori and Pasifika. They had an age range of 73 months – 113 months, with an average of 91.81 months (7.65 years).

Group One, having started with 20 participants, suffered the greatest attrition rate (seven), which was attributed to movement of children to others schools, following the effects of the Christchurch earthquakes which saw one of the schools under threat of closure and the other involved in a proposed school merger. The final number of participants was 13, of which 3 were New Zealand European, 8 were New Zealand Māori, and 2 were of Pasifika descent. There were ten males and three females (seven were the participants who left) and

they had an age range of 68 -110 months, with an average age of 86 months and a standard deviation of 14.84 months.

Table 6.1 Group One Compositional data

Child	Ethnicity	Gender	Age*
1a	E	M	105
1b	M	M	105
1e	E	M	110
1f	M	M	98
1g	M	F	92
1h	M	F	92
1i	E	M	73
1j	M	M	73
1k	M	M	68
1l	P	M	73
1m	P	F	73
1n	M	M	79
1o	M	M	77

*Results are given as relevant age in total months.

Group Two, was reduced from 20 to 15 participants when five left, four due to moving schools and the other through being accepted into a government funded literacy intervention provided in the school. There were 5 New Zealand European participants, 8 New Zealand Māori, 1 Pasifika participant and 1 Pasifika/New Zealand Māori participant in this group. The ratio of males to females in this particular group was eight males and seven females, with an age range of 81 months to113 months, the average age being 94.46 months (7.87 years), with a standard deviation of 8.95 months.

Table 6.2 Group Two Compositional data

Child	Ethnicity	Gender	Age*
2a	M	M	98
2b	M	M	100
2c	M	M	104
2d	M	F	95
2e	M	F	99
2f	M	F	98
2g	M/P	M	97
2h	P	M	113
2k	E	F	100
2l	M	F	93
2m	M	M	88
2n	E	M	83
2o	E	M	84
2q	E	F	81
2r	E	F	84

*Results are given as relevant age in total months

Group Three completed the study with 15 participants, one male having left because of continuing behavioural issues that interfered with the running of the programmes. Others left before the follow up testing, due to moving to another school with imminent closures and mergers planned. This group comprised of 7 New Zealand European, 6 New Zealand Māori, and 2 Pasifika participants. There were 4 males and 11 females, with an age range of 83 months to104 months and an average age of 94.33 months (7.86 years) and a standard deviation of 6.62 months.

Table 6.3 Group Three Compositional data

Child	Ethnicity	Gender	Age*
3b	M	F	104
3c	E	F	96
3d	E	F	95
3e	M	F	96
3f	P	F	100
3g	M	F	96
3h	M	F	97
3j	E	M	100
3k	M	M	100
3m	E	F	100
3n	M	M	92
3p	P	F	85
3q	E	M	83
3r	E	F	85
3s	E	F	86

*Results are given as relevant age in total months

Group Four, was the only group to retain all participants for the duration of the intervention phases, however, at follow up they too had lost participants and were down to 17. The 17 participants were made up of 8 males and 9 females, of which 8 were New Zealand European, 9 New Zealand Māori and 2 of Pasifika descent.

The age range in this group was 85-112 months giving an average age of 91.7 months (7.64 years) with a standard deviation of 9.73 months.

Table 6.4 Group Four Compositional data

Child	Ethnicity	Gender	Age *
4a	M	M	95
4b	E	M	95
4c	M	M	93
4d	M	M	90
4e	E	F	112
4f	E	M	92
4g	E	F	85
4i	M	F	101
4j	M	F	104
4k	M	M	96
4l	M	M	93
4m	E	F	96
4n	E	F	76
4p	P	F	81
4q	P	F	73
4s	M	F	92
4t	M	M	85

*Results are given as relevant age in years and total months

6.3.2.1 Individual participants. For the purposes of this study, results will be generally be treated and reported on per each group, with the exception of four participants, one from each group. One participant from each group has been chosen, based on the teacher nomination, because of their poor reading ability (as assessed by the Running Record of Oral Reading), compared to their chronological age. The progress of these individuals will be reported on and compared to the mean results for their groups, to establish any benefit that the interventions may have for the poorest performing participants.

6.3.3 Intervention design (first phase). The first phase of the intervention study involved each group receiving a different and quite specific intervention. Table 6.5, indicates the group number, number of participants and the type of intervention they received.

Table 6.5 First Phase Intervention Design

Phonemic Awareness (Group One)	Phonemic Awareness and Dialectal Awareness (Group Two)
20 participants (13) Average age 86 months (Game based intervention using oral rhyming games, 'I spy', Bingo (rhyming bingo, initial, medial and final sound bingo), phoneme games involving deletion, substitution, segmenting and blending.)	20 participants (16) Average age 92 months (A combination of games such as those used in the PA group, plus onset/rime word learning and dictation of sentences with specific attention to spelling of sound patterns shown to be dialect sensitive)
Dialectal Awareness (Group Three)	**Control (Group Four)**
20 participants (17) Average age 92 months (Onset/rime activities and sentence dictation with specific attention to spelling of sound patterns shown to be dialect sensitive.)	20 participants (18) Average age 90 months (Initially nothing except classroom teaching programme delivered by the classroom teacher. Follow up programme of Phonemic Awareness and Dialectal Awareness.)

Within each group, participants were further divided into smaller groups of six to eight, for the purposes of instruction. The exact group sizes were dependent on the number of participants at each of the three schools involved in the study. For the purposes of this thesis, schools will be identified as either A, B or C. Thus, the participants in Group One were made up of six children from school B and eight children from school A, originally, the split had been eight from school B and twelve from school A. Group Two began with 14 from school C and six from school A, the two participants who left the study were both from school C,

and left due to imminent school closure.

Group Three were entirely from school A, where one male participant was removed from the study due to constant behavioural issues. The final group, Group Four, acted as a control group in the first eight week phase of the intervention study. All participants were from school A. School A was much larger than the other two schools involved in the study. Hence, a greater number of participants met the criteria from this school.

6.3.3.1 Phonemic awareness (Group one). This intervention was a games based intervention, developed from a previous study (Belgrave, Everatt and Fletcher, 2014), reported on in Chapter Five. Participants had two half hour sessions a week that involved playing a variety of Bingo games (rhyming bingo, initial, medial and final sound bingo) that were variations and adaptations of commercially produced games and those provided in the Phonological Awareness kit (Gillon, 2004). 'I spy" games were played, initially lead by myself, and then by individual participants. Once again, adaptations included altering the focus from initial letter, to initial sound, final sound, medial sound and rhyming options. For example, "I spy with my little eye, something that sounds like cat' (answer, HAT), objects were either in the room or outside. The leader had to clearly identify whether the object was in fact in the classroom or could be actually seen outside the classroom, They could not choose items, for example a slide, which was outside but not actually visible from that room.

To develop skills around phoneme deletion, substitution, segmenting and blending, oral games such as 'Who can say their name without the first sound?' and saying their names and the names of objects in the room and outside backwards. Learning to say their names backwards was incredibly enjoyable for the participants and facilitated thinking skills combined with large amounts of laughter.

6.3.3.2 Phonemic awareness and dialectal awareness (Group two). This group received 15 minutes twice a week, of a shortened version of the Phonemic Awareness programme, followed by fifteen minutes of the dialectal awareness component, designed to heighten the participants' awareness of the difference between the way people sometimes pronounce words, and the correct way of writing them. Based on the 'Common word families in English' (Pressley, 2015, p.167.), onset/ rime patterns were taught, beginning with one chosen by the researcher as having proven to be problematic in the pre-testing of the participants spelling. Patterns were also chosen specifically to highlight the dialect difference. For example, the first pattern addressed was the 'ice' rime, due to several participants saying and spelling the word eyes as ice. One participant felt certain that the word 'glasses' was pronounced as '*glassice'*. This interaction was noted when she had inadvertently misplaced her glasses!

Having worked with the group on finding as many examples of words that contained the relevant rime pattern, the participants recorded them in their books, and then received a dictated sentence to write down. Several words from the onset/rime pattern were included in the sentence, as well as new patterns that I had identified as causes for concern or were being mispronounced due to the dialect difference. For example, the sentence dictated for the 'ice' rime was *"I grew a crop of rice for my family of mice to have with their dinner."*

The highlighted words in this sentence indicate the words that were errors when the participants wrote it down. The errors were:

> Grew/growed, crop/crob, family/famli/vamly/thamly, of/ov, have/hav/haf/hafe, with/wif/wiv, their/ther/der/ver/vere, dinner/dina/. In one instance, 'with their' was run together to form '*wivere"*.

These errors were subsequently discussed with the group, to enable them to understand

the dialect difference. At all times, these discussions were light hearted, to ensure that participants were aware that it was perfectly alright to pronounce the words the way they did, but that they would subsequently need to learn the correct spelling patterns for the words.

In the following session, one or two of the errors would then form the basis of the onset/rime or spelling pattern to be taught. In this way, there was no prescribed progression in this part of the intervention. Each instructional group, while receiving the same programme, did not in fact receive it in exactly the same order as another group.

6.3.3.3 Dialectal awareness (Group three). Group Three received two half hour sessions each week, involving only the dialectal awareness component described above. Due to the longer time frame, this group covered many more onset/rime patterns, and moved on to having the participants taking turns at dictating sentences that they had personally written, for their peers to write down. This was an extremely popular innovation, which allowed time to observe the participants' speech/dialect differences in a more natural setting. Some of the younger or less competent writers asked for their sentences to be written in their book for them, so that they could then read the sentence to the group.

6.3.3.4 Control group (Group four). At this point of the intervention study, the control group continued to receive regular classroom instruction only.

6.3.4 Intervention Design (Second Phase). Follow the conclusion of the first eight weeks of interventions, all participants, including those who were only receiving classroom tuition as part of the control group, were retested on the battery of measures administered prior to the commencement of the interventions beginning. Data pertaining to the participants' Reading Recovery level and asTTle writing level (see explanation of these two measures in Chapter Four), were also obtained from the classroom teachers for comparison purposes. These results are presented in the Results section to follow. As far as data analysis is concerned, neither of these two tests is quantitatively sound as they allow for a degree of

subjectivity and are not standardised measures, as was discussed in Chapter Four.

At the conclusion of this mid-point testing, each group resumed another eight weeks of intervention. In this phase of the intervention study, Groups One, Two and Three all received the Phonemic Awareness and Dialectal Awareness intervention that had previously been given only to Group Two. Group Four, acting as a control group, continued to receive regular literacy instruction from their classroom teachers. It is important to note that, due to the structure of the school year, with school terms being organised into ten week blocks, there was a two week vacation period after the mid-point testing and prior to the second phase of the intervention commencing.

6.3.4.1 Intervention design (third phase). Following the second phase of interventions, final testing, using the same battery of tests, was administered by the researcher. As at the mid-point, a Reading Recovery level and asTTle writing level were also obtained from the classroom teachers to give an overall picture of the participants' progress from the point of view of the children in relation to New Zealand National Standards (Ministry of Education, 2009a), as well as to inform the current study as a whole.

Having acted as control group, Group Four, was subsequently given eight weeks of the Phonemic Awareness and Dialectal Awareness programme at this point. They were not tested immediately following this eight week period, but were included in the follow up testing, which took place six months after the conclusion of the second intervention phase.

6.3.4.2 Intervention design (fourth phase). This phase consisted entirely of the administration of the battery of original testing measures by the researcher and the gathering of reading and writing data from the classroom teachers of the participants. This phase was influenced by the long summer vacation, six weeks, that had occurred in the interim, where children, particularly those who struggle, experience a drop in reading and/or writing level (Tiruchittampalam, 2016). Also the movement of participants within their schools from one

school year level to the next can have a negative affect on reading and writing levels at the start of the year..

In its entirety, this intervention study took place over the period of approximately 15 months from early in 2013, until nearly the middle of 2014. As previously mentioned, the 80 participants, their schools, teachers and families, were involved in personal and professional situations, outside of the parameters of the research. Throughout Christchurch, during this time, all of the families, teachers and Principals, would have had factors related to earthquake issues, that perhaps impacted on some of the results, which will be presented in the following section.

6.4 Results

Measures of literacy and literacy-related skills were taken pre, mid, post, and six months after the intervention. The results and descriptive analysis of these assessments and findings are displayed and reported for each of the intervention groups, for the four main testing measures, Peters Spelling Age Test (Peters, 1970), Burt Word Reading Age Test (Gilmore et al., 1981), Phonemic Awareness (Roper, 1984, Nicholson, 2005) and Dialect Density, number of differences in oral language compared to Standard English using the Record of Oral Language (Clay et.al, 1976).

Following the group results, comparisons between the three ethnic groups involved in the study will be examined. Thirdly, a brief description of some individual results will be explored and recorded. To ascertain specific characteristics of the dialect errors recorded, these will be reported on for each of the testing sessions. Where appropriate, figures and tables will be used to display data.

6.4.1 Spelling Results. As explained in the method section of this chapter, spelling age was assessed using the Peters Spelling Age Test (see full description in Chapter Four).

Mean results for each group are displayed with the Standard Deviation below. Throughout this results section, the numbers 1-4 after the name of the measure, indicate the testing session;

1 – pre intervention testing

2 – mid intervention testing

3 – post intervention testing

4 – follow up testing

Table 6.6 shows the Peters Spelling Age results with age indicated in months, for all groups, over each testing session.

Table 6.6 Peters Spelling Age in months by group (Mean on top with SD below)

Group	Peters 1	Peters 2	Peters 3	Peters 4
One	76.07	82.07	88.07	93.46
	15.96	18.00	27.42	27.92
Two	82.8	93.26	101.33	95.93
	11.13	16.20	19.86	12.15
Three	87.73	92.40	100.8	96.26
	7.62	8.66	15.01	10.01
Four	90.17	90.29	92.52	96.05
	13.75	13.53	15.03	12.29

To facilitate a comparison of the four groups over the duration of the study, results, without standard deviation are represented in Figure 6.1.

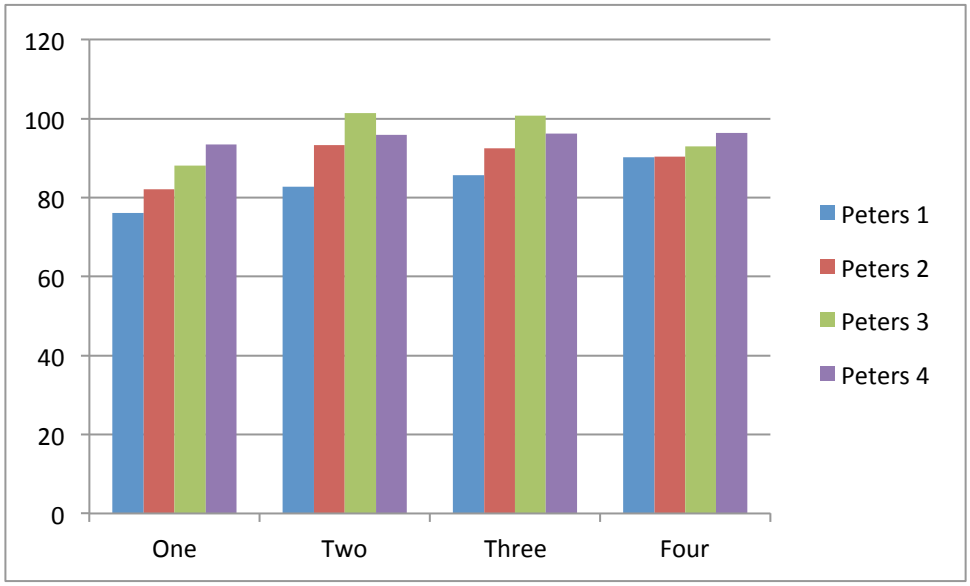


Figure 6.1 Peters Spelling Age results by group

Results for spelling age testing show that over the 15 month period from pre testing to follow up testing, all groups made some progress. Group Two showed the biggest average gain at the post testing, moving from a mean of 82.8 months (6.9 years) , to 101.33 months (8.44 years). They subsequently suffered a decline at follow up testing, dropping to 95.93 months (7.99 years) in spelling age on average, which equates to an overall gain of 13.13 months in spelling age over the entire study. Group Three also showed a decline in Spelling Age at the follow up testing. They began the study with an average spelling age of 85.73 months (7.14 years), which moved to 100.8 months (8.4 years) post intervention, then dropping to 96.26 (8.02 years) on follow up. This was an overall gain of 10.53 months in spelling ages over the 15 months of the study. Group One did not show a decline at follow up testing. This meant an overall increase of 17.39 months throughout the study, giving them the largest gain over the course of the entire study. The table and figure indicate that Group One began the study with a mean spelling age below that of the other groups, which is consistent with their average chronological age, which was also lower than the other three groups.

Group Four also maintained their increase over the course of the study, but recorded the lowest increase, with an mean gain of 6.33 months in spelling age over the entire study, having started at an average of 90.17 months (7.51 years), they finished with an average of 96.05 months (8.004 years).

6.4.2 Reading Results. Individual word reading ability was assessed using the Burt Word Reading Age tests (see description in Chapter Four). Mean word reading ages for each group, with Standard Deviations below, are shown for each group at each testing session in Table 6.7.

Table 6.7 Burt Word Reading Age results in months by group (Mean on top with SD below).

Group	Burt 1	Burt 2	Burt 3	Burt 4
One	73.15	80.92	89.00	93.53
	11.96	16.00	22.62	30.08
Two	81.06	92.33	98.86	98.73
	7.61	12.68	14.46	13.80
Three	79.33	85.86	92.20	92.73
	3.37	6.45	7.25	8.48
Four	83.82	85.16	87.94	90.05
	8.74	10.29	11.72	13.28

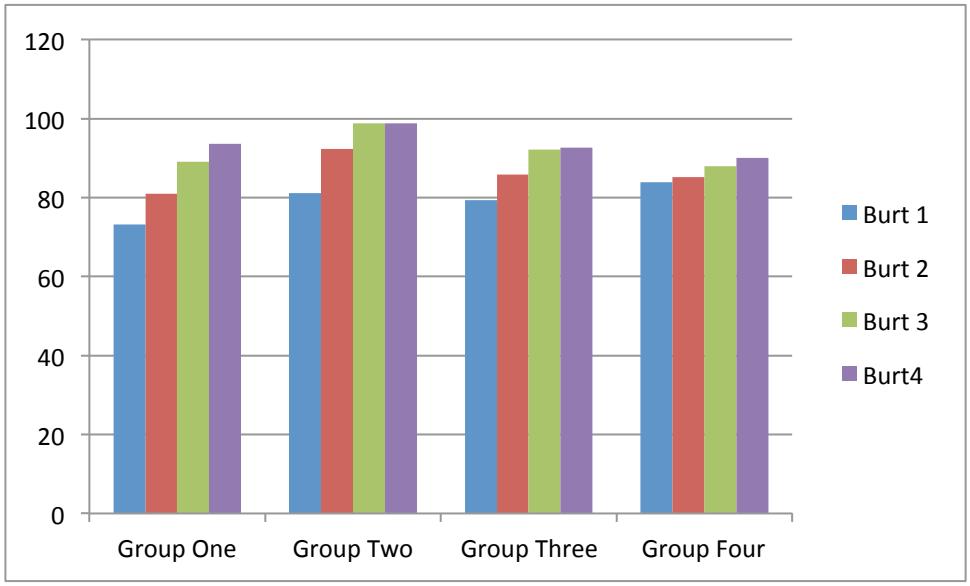


Figure 6.2 Burt Word Reading Age results in months by group.

As can be seen in Table 6.7 and Figure 6.2, all groups made some gains in word reading age over the duration of the study. Group One started the study with a lower mean Word reading Age than the other three groups. They maintained their improvement throughout the study, including at the follow up testing, moving their mean word reading age from 73.15 months (6.09 years) to 93.53 months (7.79 years), a total gain of 20.43 months over the 15 period of the study. This is a greater gain than the chronological age throughout the study.

Group Two made gains in word reading age during the intervention phases of the study, but dropped back slightly at the follow up testing. This left the mean word reading age gain for Group Two at 17.67 months. This was less than the gain for Group One, but still above the chronological age gain over the study period.

As with the results for Group One, Group Three continued to improve their mean word reading age over the entire study period. They made a total mean gain of 13.4 months, which in this instance, was less than the chronological gain throughout the study. Group Four recorded the smallest gain in mean word reading age over the study period, of just 6.23

months. Their progress was slower than the other groups and did not indicate a decline at the follow up testing.

6.4.3 Running Record of Oral Reading Results. While these results were tested and collected by the classroom teachers or literacy specialists in the three schools, the information is reported on to enable a comparison with the word reading measure results for each group and the individuals results, given that this was an essential measure used to nominate the participants. Running Record of Oral Reading results are presented as a Reading Recovery level (for description see Chapter Four).

Table 6.8 Reading Recovery levels by group (Mean on top with SD below).

Group	RR 1	RR 2	RR 3	RR 4
One	8	11.23	16.30	19.30
	7	6.72	8.58	8.97
Two	20.33	22.53	24.66	28.06
	5.05	4.8	4.41	5.13
Three	17.6	18.86	20.86	22.53
	2.58	2.35	2.38	2.19
Four	16.23	17.47	19.35	20.35
	5.47	5.05	4.92	4.79

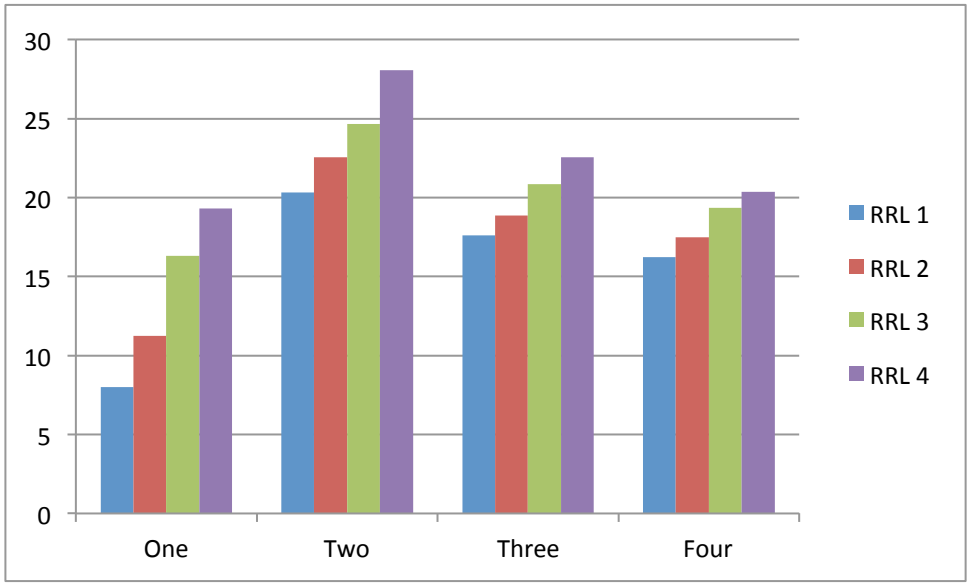


Figure 6.3 Reading Recovery levels by group

As can be seen in Table 6.8 and Figure 6.3, all groups made progress during the 15 month period from pre testing to follow up testing, based on the information as to their Reading Recovery levels, provided by the classroom or literacy teachers. Group One started the study with a lower mean reading ability than the other three groups (as recorded by their teachers through the Running Record of Oral Reading) and improved a mean of 11.3 Reading Recovery levels, which is equivalent to 1.5-2.0 years in terms of reading age as described by the Reading Recovery levels/reading age chart found in appendix two. This is a larger result to that indicated through the administration of the Burt Word Reading Age Test which is displayed in Table 6.7 and Figure 6.2, and reported on above. Group Two had a mean gain of 7.33 Reading Recovery levels, which equates to 3 years of reading age as per the chart given in appendix two. A description of this chart is found in Chapter Four, which outlines the non-linear nature of the Levels to reading age match. As with Group One, this is a larger gain than that recorded by the Burt Word Reading Age Test administered to the participants. Group Three, improved by 4.93 Reading Recovery levels, or 1.28 years of reading age over the study. This is almost equivalent to the chronological age gain over the course of the study,

and is closer to the Burt Word Reading results than that recorded for Groups One and Two. The control group, Group Four, gained a mean of 4.12 Reading Recovery levels, or 0.94 of a year which is less than the complete time of the study. As with Study One, these results appear significant in that the mean time each group had spent at school, they had not achieved the equivalent expected gains in reading ability, yet during the time of the study from pre-test to follow up testing, all groups apart from Group Four, gained more than an expected month to month increase in reading ability. For example, the mean time spent in formal schooling (formal schooling is assumed to be chronological age minus five years, as children in New Zealand begin school on their fifth birthday) for the Group One was 2.16 years at pre testing, with a mean reading ability, based on the Reading Recovery level, which would be expected after 0.5years of schooling. Post testing, they had a mean length of formal schooling of 2.91 years, and a mean Reading Recovery level expected after 1.5 years at school. While it appears that there has been a narrowing of the disparity between chronological age and reading age, the Running Record of Oral Reading is not usually considered to be statistically reliable because it is primarily a diagnostic tool, and hence these results are useful as a comparison with the standardized Burt Word Reading Age Test, as opposed to regarding them as statistical data.

Group Two began with a mean time of formal schooling of 2.87 years and a mean Reading Recovery level expected after 2.5 years. At post testing, they had a mean of 3.62 years of schooling and a mean reading age expected after 3.7 years of school. This group showed the most significant increase in that they finished with a mean score above the expected level for cohorts who had been at school the same length of time. Group Three had a mean of 2.86 years of formal schooling at pre testing, and a mean reading ability expected after 2.3 years. At post testing, they had a mean of 3.61 years with a mean reading ability

expected after 2.9 years. Group Four, at pre testing, had a mean time in schooling of 2.64 years, with an a mean reading ability expected after 1.6 years.

At post testing they had a mean time spent in school of 3.39 years with the mean ability expected after 2.3 years at school.

6.4.4 Phonemic Awareness Results. Phonemic awareness was tested using the Gough, Kastler and Roper Phonemic awareness test, originally devised by Roper (1984) and analysed for New Zealand participants by Nicholson (2005). Results are reported as a raw score out of 42. Mean scores with standard deviation below are given for each group at each of the four testing times. Table 6.9 and Figure 6.4 show these results.

Table 6.9 Phonemic awareness results by group (Mean on top with SD below)

Group	PA 1	PA 2	PA 3	PA 4
One	14.38	30.07	36.76	32.92
	14.86	10.96	5.97	12.20
Two	27.26	38.8	40.66	41.26
	9.88	6.02	4.36	2.84
Three	28.6	39.2	40.66	40.93
	9.12	5.96	4.40	2.89
Four	28	33.41	35.82	35.35
	9.72	9.24	8.17	9.50

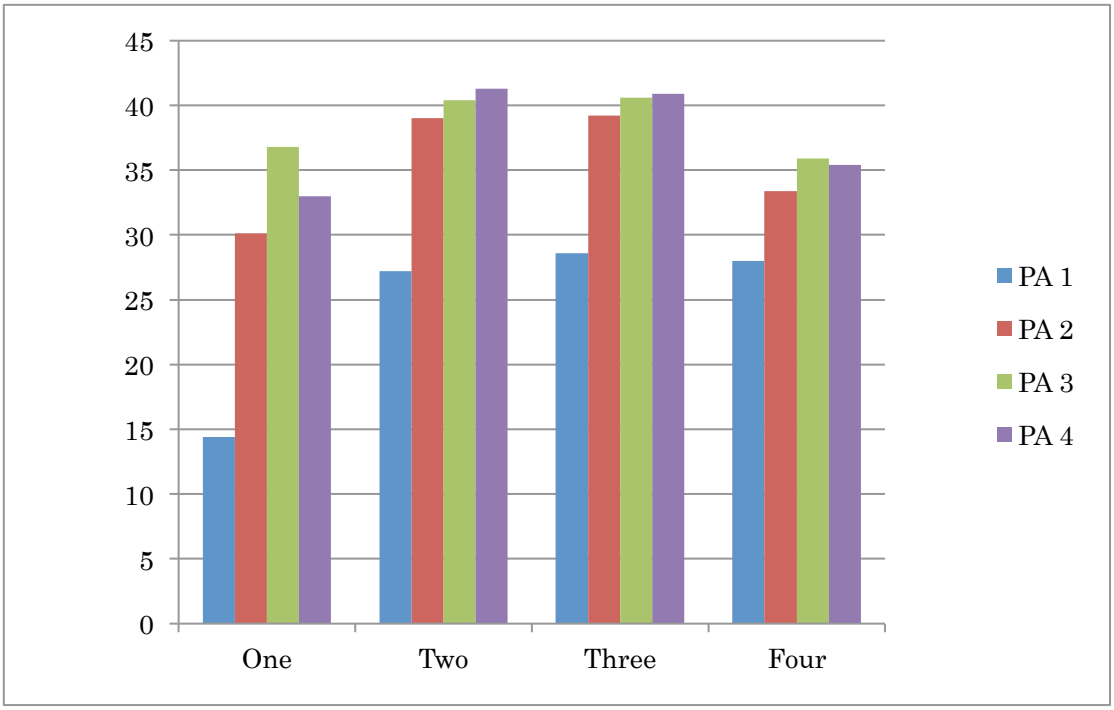


Figure 6.4 Phonemic awareness results by group

As with individual word reading, all groups showed an improvement in phonemic awareness from pre testing to follow up testing. While Group One made the biggest gains, they did start the study below the level of the other three groups, which is consistent with all data presented thus far. Subsequently, they also showed the largest drop in ability at follow up. Group Four made the least overall mean gains in phonemic awareness, which was an expected result, but also showed a drop in ability at the follow up testing. Groups Two and Three having had more intervention time spent on the dialectal awareness component of the intervention study, not only improved in ability during the intervention period, but sustained an improvement at follow up, six months after the interventions had finished. The maximum score possible for this test is 42 and both Groups Two and Three were close to this after the first eight weeks of intervention. Therefore the results could have been influenced by the ceiling effect. Of interest, is that the results for Groups Two and Three after the first eight

weeks of the intervention are similar, while Group Three had not received any instruction in Phonemic Awareness at this point of the study.

6.4.5 Writing Results. Participants' writing was assessed by their classroom or literacy teacher, using the asTTle timed writing sample (see description in Chapter Four). As with the Running Record of Oral Reading, this assessment measure is considered to be subjective and therefore not statistically viable. Including this information in this results section allows a comparison of the progress of the participants as seen by the teachers, with the progress measured directly in the study. As shown in Table 6.10, the mean score for each group improved over the full 15 months of the study for all groups.

Table 6.10 Timed writing sample results by group.

Group	Write 1	Write 2	Write 3	Write 4
One	1.12	1.35	1.69	2.11
Two	1.41	1.64	1.95	2.60
Three	1.14	1.33	1.75	2.22
Four	1.19	1.25	1.46	1.58

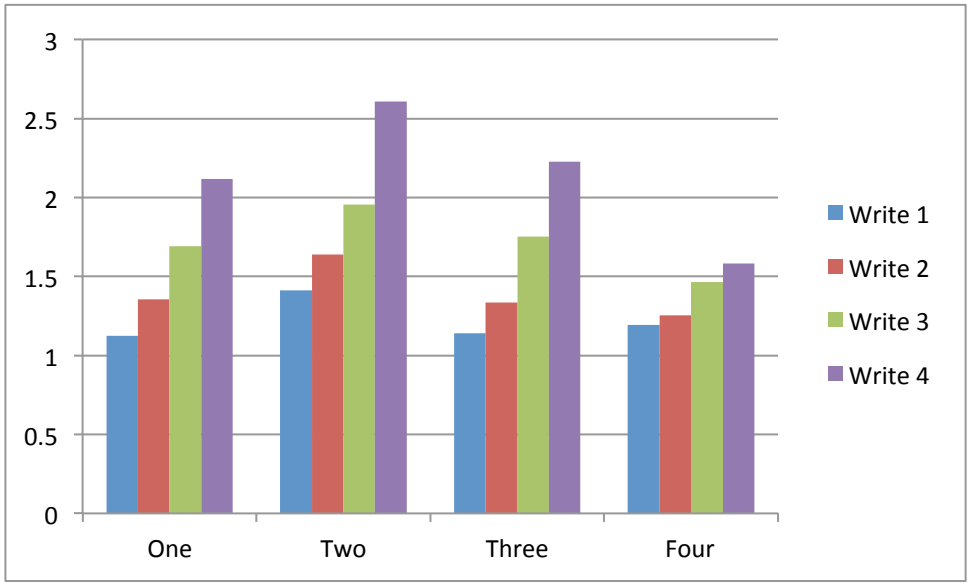


Figure 6.5 Timed writing sample results by group.

In this assessment, all groups started the study with a mean writing ability that was within Level One of the New Zealand Curriculum (Ministry of Education, 2009a), with no major discrepancy between the groups, as reported in other measures. Group One was below the levels of the other groups. According to this information, no groups had a decline in their average writing scores at follow up, as with other measures administered in the study. Group Two started at a slightly higher level than the other groups and made the most progress, moving a mean of 1.19 levels over the 15 month duration of the study. Group Four made the least progress, moving by a mean of 0.39 of a level.

No measure of writing was administered in the research to enable a direct comparison, with spelling testing being the only related measure, as it is one of the components assessed in the asTTle matrix (Ministry of Education, 2011). Spelling results indicated a decline in ability at the follow up testing for Groups Two and Three, whereas the writing result does not show a similar decline. The period between the post testing (Write 3) and follow up testing (Write 4) indicates the largest improvement for Groups One, Two and Three. This was not an expected result and does not mirror any of the testing measures administered during the research.

Looking at the mean age of the participants compared with their writing levels, Group One had received a mean of 2.15 years (25.8 months or in Year Three) of schooling at pre testing, indicating their mean writing ability was below that expected. They finished the study having had 3.39 years of schooling (40.68 months or in Year Four), therefore their writing ability placed them within the correct level expected.

Group Two began with a mean time in formal schooling of 2.66 years (31.92 months or in Year Three), which placed them slightly below the expected level. Follow up results in writing showed them to have a mean score that would be slightly above that expected considering they had received an average of 3.91 years (46.92 months or in Year Four) of

schooling.

Group Three had a mean of 2.66 years (31.92 months or in Year Three) of formal schooling at the start of the study, which indicates by their mean score, that they were working slightly below the expectation for their age. They had a mean of 3.91 years (46.92 months or in Year Four) at the completion of the study, and were achieving slightly below the expectation. Group Four had a mean time in schooling of 2.5 years (30 months or in Year Three), at the start of the study and were below expectation in writing. At the conclusion of the study they had received 3.75 years (45 months or in Year Four) of schooling and were working at a level that would be considered well below expectation.

Teachers would find this result for Groups One, Two and Three encouraging, but from a research point of view it is possibly not as reliable as data. Although, given that the control group (Group Four) made the least progress, it could be considered viable data.

6.4.6 Dialect Density results. In this study, Dialect Differences, referred to as Dialect Density (see Chapter Three) were measured using ten sentence repetition tasks from the Record of Oral Language (Clay et al., 1976). A description of this measure is in Chapter Four. Every instance where a participant produced a word or phoneme that differed from the target in the prescribed sentences, were recorded as an error. For this report, mean total errors for each group are presented in Table 6.11 and Figure 6.6.

Table 6.11 Dialect Density results by group (SD below).

Group	Dialect errors 1	Dialect errors 2	Dialect errors 3	Dialect errors 4
One	30.53	14.92	10.23	17.07
	7.19	5.58	4.58	9.96
Two	29.13	14.06	9.73	10.40
	9.24	6.93	7.04	5.98
Three	19.53	7.4	5.66	8.13
	5.23	4.48	3.43	6.17
Four	18.29	15.35	14.76	17.35
	7.43	8.17	7.90	10.11

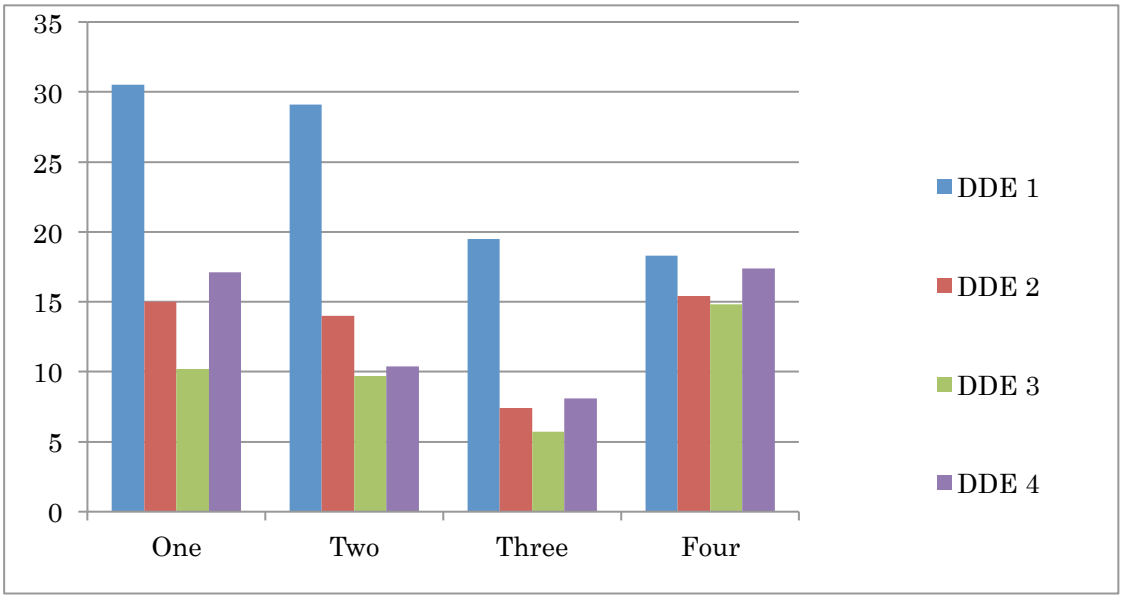


Figure 6.6 Dialect Density results by group.

Reducing dialect density in the participants' oral language was not a direct aim of this study. As can be seen, results indicate that all groups decreased the mean dialect density over the course of the intervention. All four groups also showed an increase in dialect density at the follow up testing.

Groups One and Two had similar mean dialect density scores at pre testing, while Groups Three and Four shared similar but lower dialect density scores. Results indicate that Group Two showed the largest sustained reduction in dialect density. Some examples of the most common of these changes were; elimination of the /f/ (/th/ fronting) and /d/ substitutes for /Ɵ/ and /Ď/ in prevocalic and intervocalic positions and deletion of final nasals. Further analysis of these common differences and the changes over the course of the study are reported on later in this results section.

6.4.7 Statistical analyses. In order to assess whether there were differences between interventions and/or better improvements in one intervention compared to the classroom teaching programme (group 4), a series of analyses of covariance were performed on the measures. These contrasted the performance of the four groups on the post-intervention scores, but controlled for pre-intervention performance differences. This control of pre-intervention levels was important given that the first intervention group, who received phonemic awareness training alone, was on average younger than the other groups. This meant that for the majority of the measures, this group performed on average lower than the other groups prior to the intervention. The analyses of covariance controlled for these potentially influential differences, thereby allowing a determination of any evidence for differences between the groups that would suggest one or more intervention(s) was/were associated with better performance post-intervention. In each analysis, all four groups were contrasted (with partial eta-squared values been presented as an estimate of effect size), but if a significant effect of group was identified, then pairwise comparisons were then performed to determine which group (Group 1, Phonemic Awareness only; Group 2, Phonemic Awareness and Dialectal Awareness; Group 3, Dialectal Awareness alone; and Group 4, Classroom Teaching) differed from which.

For the Peters spelling measure, there was a significant effect of group ($F_{(3,55)} = 7.89$, $p < .001$, eta-squared = .30). This effect is clearly shown in Figure 6.7, which suggests improvements between pre- and post-intervention scores for all groups with the possible exception of the classroom teaching programme controls (group 4) where the change over time was marginal. Pairwise comparisons of estimated marginal means (i.e., statistically interpreting pre-intervention scores as equal across groups) were consistent with this interpretation, with only group 4 showing statistically significant differences from the other groups (estimated marginal means: Group 1, Phonemic Awareness only = 26.04; Group 2, Phonemic Awareness and Dialectal Awareness = 27.86; Group 3, Dialectal Awareness alone = 26.36; and Group 4, Classroom Teaching = 20.90; differences between group 4 and the other groups were significant at $p < .01$ in each comparison).

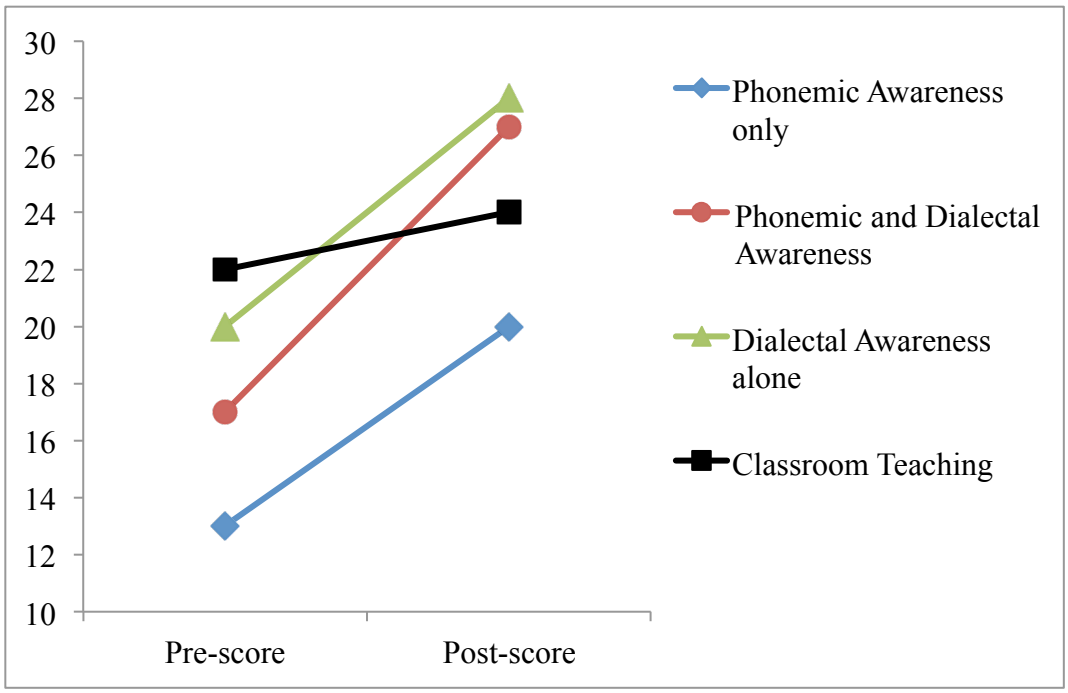


Figure 6.7 Mean scores pre- and post-intervention on the Peters Spelling Test by group.

For the Burt reading measure, there was a significant effect of group ($F_{(3,55)} = 29.62$, $p < .001$, eta-squared = .62). This effect is shown in Figure 6.8. Pairwise comparisons of

estimated marginal means indicated that group 4 produced statistically poorer performance compared to the other groups (significant at $p < .01$ in each comparison), and group 3 showed statistically significant differences compared to the other groups ($p < .02$ in each case); though in the latter case the scores were worse than groups 1 and 2, and better than group 4 (estimated marginal means: Group 1, Phonemic Awareness only = 50.14; Group 2, Phonemic Awareness and Dialectal Awareness = 46.25; Group 3, Dialectal Awareness alone = 41.05; and Group 4, Classroom Teaching = 30.34).

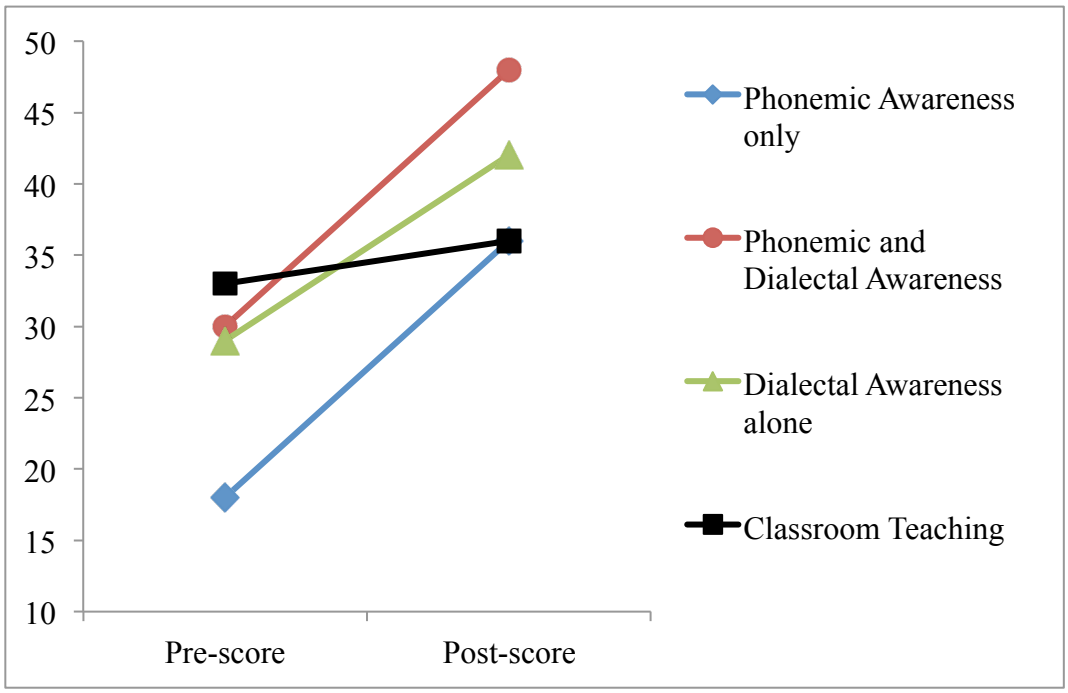


Figure 6.8 Mean scores pre- and post-intervention on the Burt Reading Test by group.

For the Phonemic Awareness test, there was a significant effect of group ($F_{(3,55)} = 7.60$, $p < .001$, eta-squared = .29). This effect is shown in Figure 6.9. Pairwise comparisons of estimated marginal means indicated that group 4 only produced statistically poorer performance compared to the other groups (estimated marginal means: Group 1, Phonemic Awareness only = 41.22; Group 2, Phonemic Awareness and Dialectal Awareness = 39.73;

Group 3, Dialectal Awareness alone = 39.17; and Group 4, Classroom Teaching = 34.58; significant at $p < .01$ in each comparison).

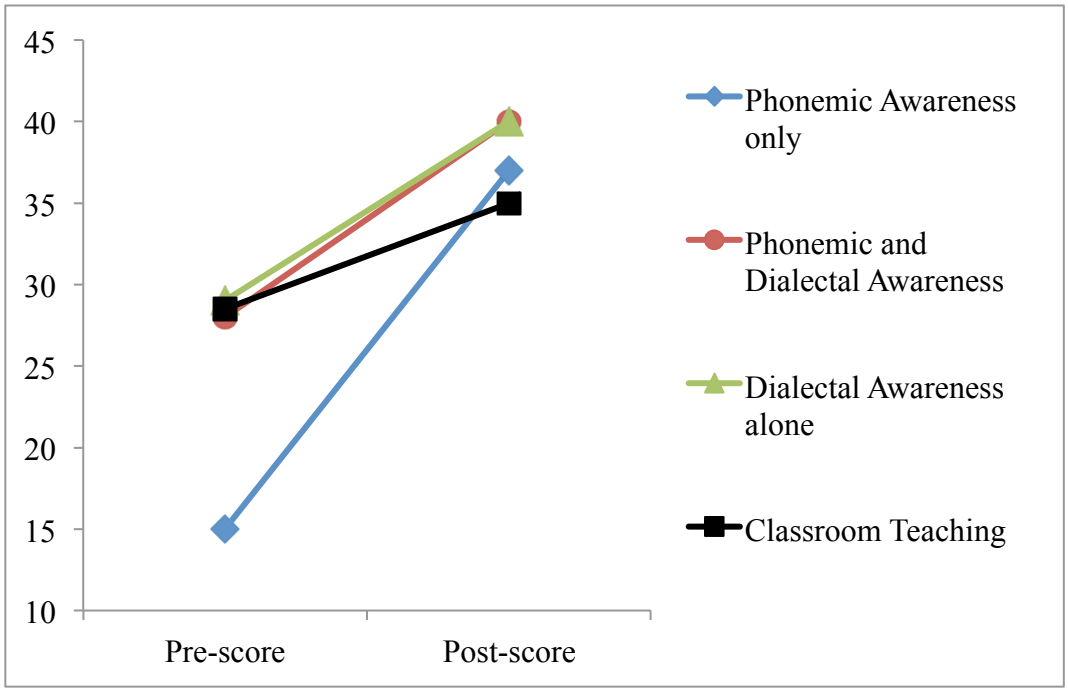


Figure 6.9 Mean scores pre- and post-intervention for Phonemic Awareness by group.

For the Dialect Differences assessment, there was a significant effect of group ($F_{(3,55)} = 21.37$, $p < .001$, eta-squared = .54). This effect is shown in Figure 6.10. Pairwise comparisons of estimated marginal means indicated that group 4 only produced statistically poorer performance (more errors) compared to the other groups (estimated marginal means: Group 1, Phonemic Awareness only = 6.33; Group 2, Phonemic Awareness and Dialectal Awareness = 6.66; Group 3, Dialectal Awareness alone = 8.30; and Group 4, Classroom Teaching = 18.14; significant at $p < .01$ in each comparison).

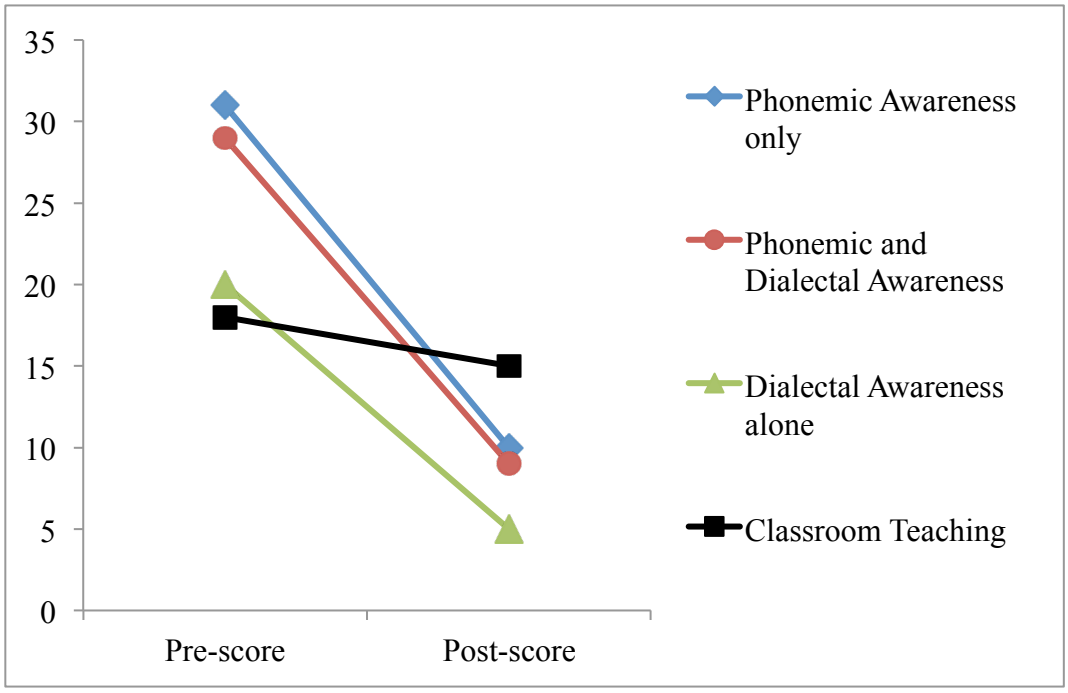


Figure 6.10 Mean scores pre- and post-intervention for Dialect Density by group.

For the Running Record of Oral Reading assessment scores, based on reading recovery levels, there was a significant effect of group ($F_{(3,55)} = 10.71$, $p < .001$, eta-squared = .37). This effect is shown in Figure 6.11. Pairwise comparisons of estimated marginal means indicated that group 1 showed statistically superior scores compared to the other groups ($p < .01$ in each case), whereas groups 2 and 3 did not differ statistically significantly from the control group 4; though the difference between groups 2 and 4 ($p = .08$) approached conventional statistical significance levels (estimated marginal means: Group 1, Phonemic Awareness only = 23.74; Group 2, Phonemic Awareness and Dialectal Awareness = 20.37; Group 3, Dialectal Awareness alone = 19.17; and Group 4, Classroom Teaching = 19.00).

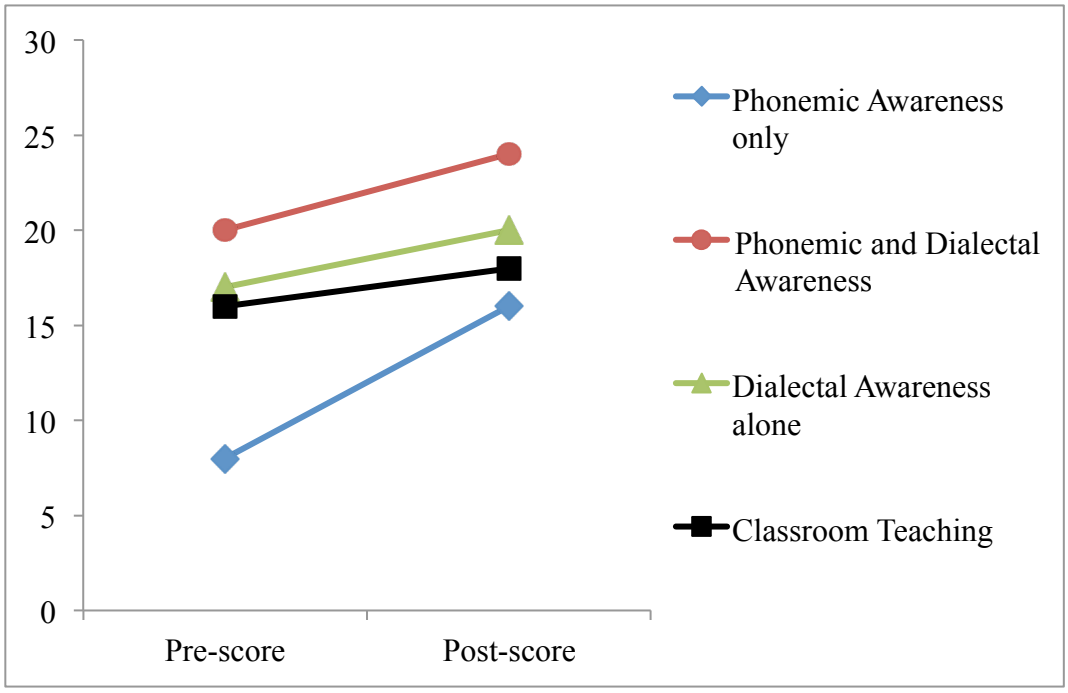


Figure 6.11 Mean scores pre- and post-intervention for Reading Recovery levels by group.

In contrast to the other measures, the analysis of Writing scores produced a non-significant effect of group ($F_{(3,55)} = 1.77$, $p = .16$, eta-squared = .09). This can be seen in Figure 6.12.

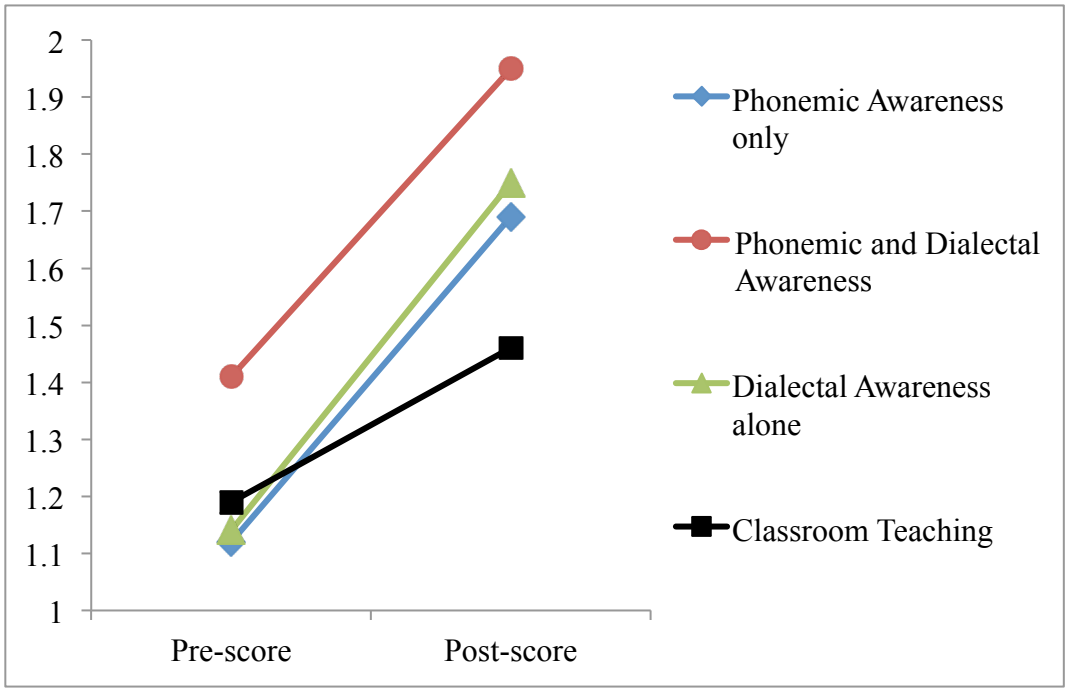


Figure 6.12 Mean scores pre- and post-intervention for the Writing sample by group.

6.4.8 Results by Ethnicity. Results for each of the ethnic groups who participated in the study are presented by testing measure and group, below. The decision to incluse these results was informed by the previously reported information pertaining to the overrepresentation of Pasifika and New Zealand Māori in new Zealands tail of underachievement. Figures 6.11, 6.12 and 6.13, show the results for all participants, in spelling age, as per the Peters Spelling Age Test.

The number of participants in each ethnic group varied in each of the treatment groups, therefore, the results are influenced by the small sample size, particularly for the Pasifika group. The numbers are as follows:

Group One: Three New Zealand European, eight New Zealand Māori, and two Pasifika

Group Two: Five New Zealand European, eight New Zealand Māori, and two Pasifika

Group Three: Seven New Zealand European, six New Zealand Māori, and two Pasifika

Group Four: Eight New Zealand European, nine New Zealand Māori, and two Pasifika

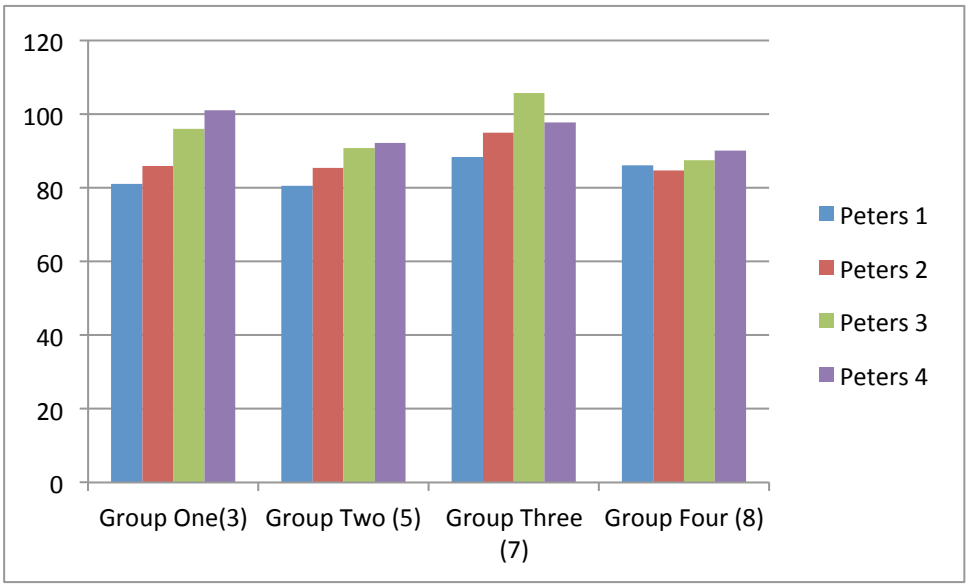


Figure 6.13 Spelling Age results for New Zealand Europeans by group.

Figure 6.14 shows the spelling age results for New Zealand Māori participants by group.

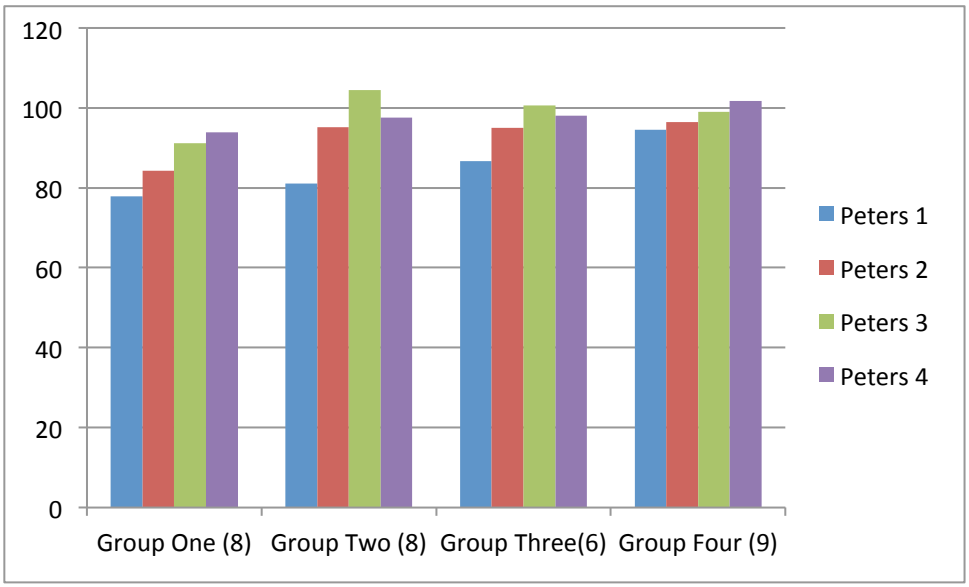


Figure 6.14 Spelling Age results for New Zealand Māori by group.

Figure 6.15, shows the Spelling Age results for Pasifika participants by group.

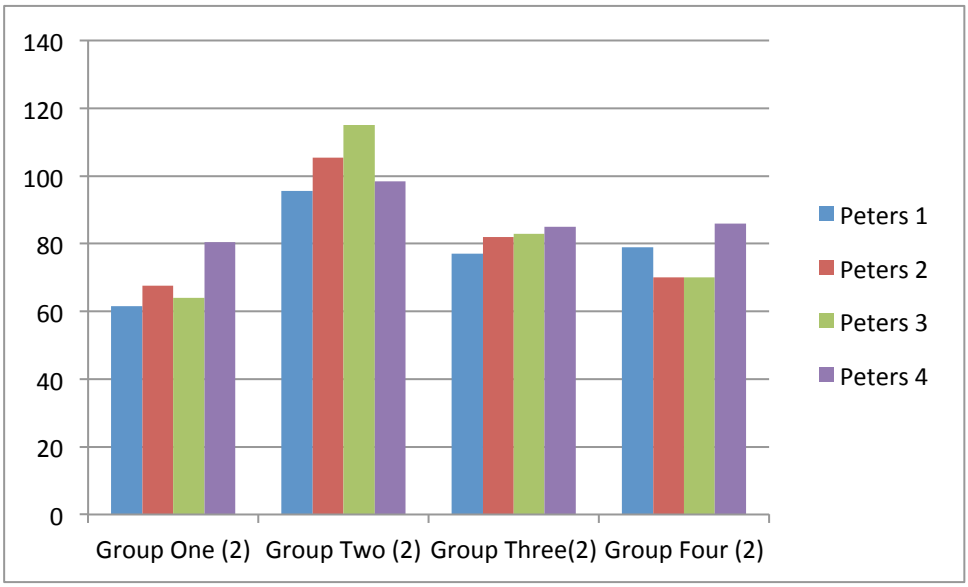


Figure 6.15 Spelling Age results for Pasifika participants by group.

As the above figures indicate, there is some variance in the results for Spelling Ages, across the different ethnicities of the participants. While all participants in Group One showed a mean increase in spelling age from pre intervention to follow up, with no drop in spelling age after the interventions had ceased, there was varied results. New Zealand European and New Zealand Māori participants showed steady increases throughout the study, whereas the Pasifika participants, while initially showing improvements, had a slight drop at the post intervention testing. All ethnic groups, over all treatment groups, showed overall improvement in spelling age. The largest overall mean improvement was made by the New Zealand Māori participants in Group Two, at their post intervention testing, although this was not sustained at the six month follow up. Pasifika participants in Group Two showed the largest drop at follow up testing. In Group Three, Pasifika participants were the only participants not to have a drop in spelling age at follow up testing.

New Zealand Māori and New Zealand European participants in Group Four maintained slow progress throughout the study, while the Pasifika participants in this group showed their biggest increase at follow up. Two things to note at this point, there were only two Pasifika participants in each group, therefore the mean results are not as statistically reliable as with the other two ethnic groups. Also, Group Four only received half the amount of intervention time as the other three groups, which was delivered between post intervention testing and the follow up testing.

Preliminary analysis may suggest that different interventions are more effective with participants of different ethnicities. The robustness of this contention and the possible implications for educators will be discussed later in this chapter (see section 6.5 Discussion).

Word reading age, as tested by the Burt Word Reading Age Test was also analysed by ethnicity. Figure 6.16, below, shows the Burt Word Reading Age Test results for New Zealand European participants by group.

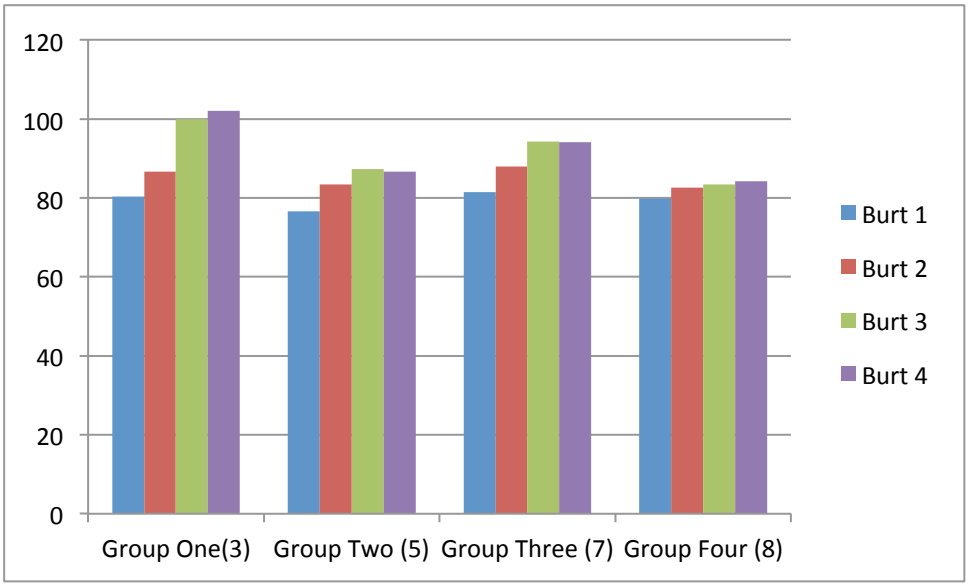


Figure 6.16 Word Reading Age results for New Zealand European participants by group.

Figure 6.17 shows the Burt Word Reading Age results for New Zealand Māori participants by group.

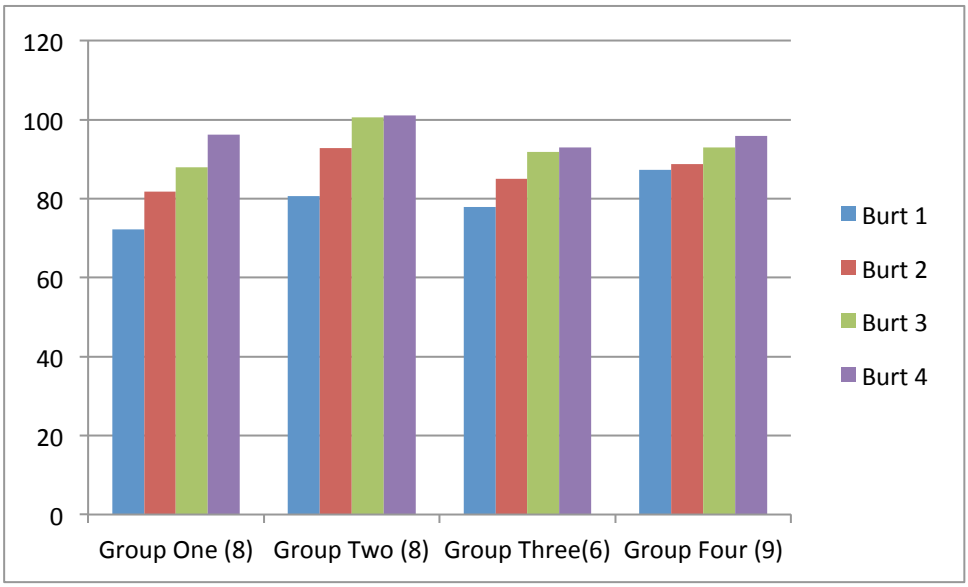


Figure 6.17 Word Reading Age results for New Zealand Māori participants by group.

Figure 6.18, below, shows the Burt Word Reading Age results for Pasifika participants by group.

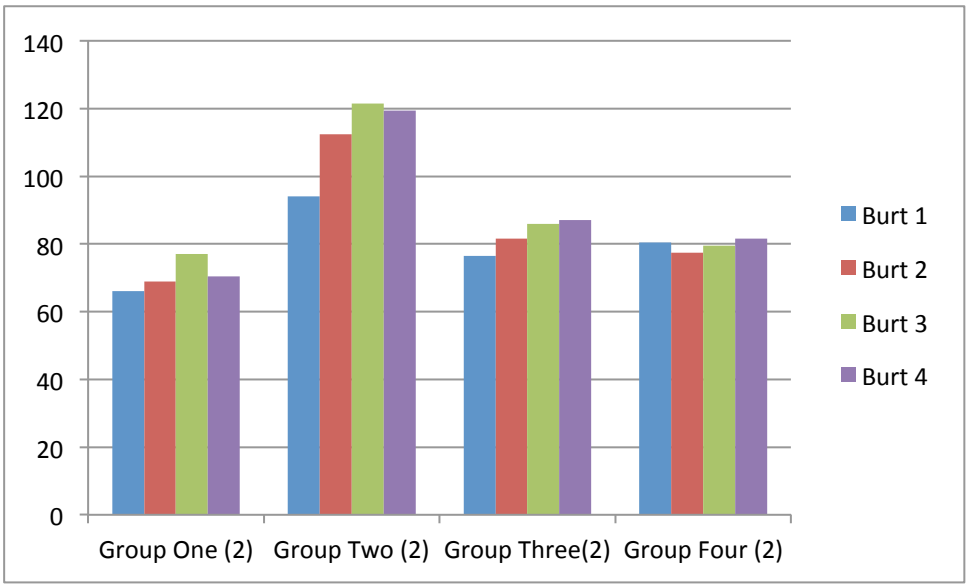


Figure 6.18 Word Reading Age results for Pasifika participants by group.

For word reading age as assessed by the Burt Word Reading Age Test, New Zealand European participants in Groups One and Three performed better than those in Groups Two or Four. All New Zealand European participants made some gains in word reading age over the course of the study, with those in Group Two showing a slight drop at follow up testing.

All New Zealand Māori participants made gains throughout the intervention phases and sustained them at follow up testing. While the results for New Zealand European and New Zealand Māori participants are similar for those in Group One, (average gains of 22 and 24 months respectively), the New Zealand Māori participants outperformed the New Zealand European participants in Group Two, gaining 21 months in mean word reading age, as opposed to ten months by the New Zealand European participants. Pasifika participants in Group Two, started with higher mean word reading ages than either New Zealand European or the New Zealand Māori participants. They made the largest gains with a mean of 25 months gain in word reading age.

With the least amount of intervention time, Group Four showed the smallest gains overall, with Pasifika participants making just a one month mean gain, and New Zealand European participants making a mean of four months gain. New Zealand Māori participants in Group Four made the largest gain, with an average of nine months gain in word reading age over the course of the study. Once again, the relevance and possible implications of these results are discussed later in this chapter.

Consistent with previous analyses by ethnicity and group, phonemic awareness was also analysed. Figures 6.19-6.21 show the results for phonemic awareness for all participants by group.

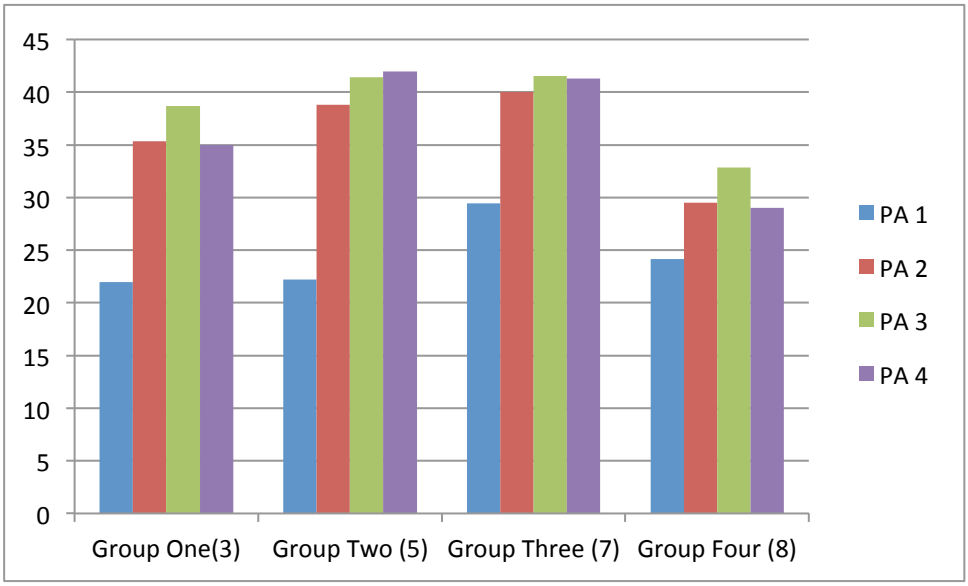


Figure 6.19 Phonemic awareness for New Zealand European participants by group.

Figure 6.20, shows the phonemic awareness for New Zealand Māori participants by group.

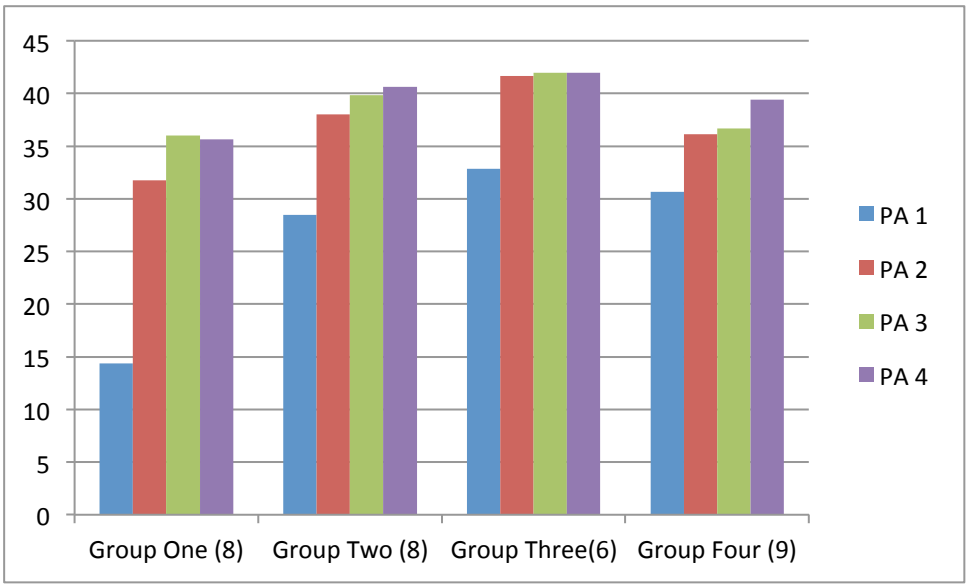


Figure 6.20 Phonemic awareness for New Zealand Māori participants by group.

Figure 6.21, shows the phonemic awareness for Pasifika participants by group.

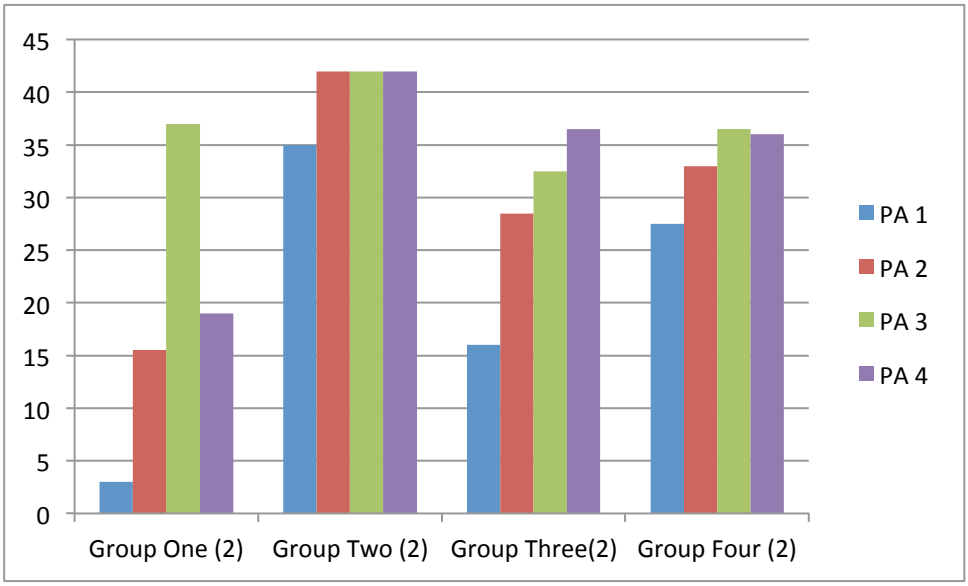


Figure 6.21 Phonemic awareness for Pasifika participants by group.

As can be seen in the three figures above, there was a wide range in the starting point for phonemic awareness for participants in Group One. New Zealand European were the better performing with a mean of 22 correct items, New Zealand Māori had a mean of 14.37 items, while Pasifika participants had a mean of three correct items. Despite the difference in starting levels, New Zealand European and New Zealand Māori participants finished on almost the same number of correct items, 35 and 35.6 respectively. Having reached a similar number at post testing Pasifika participants were not able to sustain the increase and recorded the largest drop at follow across all groups and ethnicities of 18 items.

All participants in Group Two continued to improve, or maintained their 100% level at follow up. New Zealand Māori and Pasifika participants in Group Two had better Phonemic Awareness than the New Zealand European participants at the pre intervention testing.

In Group Three, Pasifika participants made the largest gains, but started at a lower point, thus having more room to increase their score before reaching the 100% mark. The only participants in Group Four to maintain improvement over the study were the New Zealand Māori participants, who started with the highest mean scores, within Group Four.

Given that Dialect Density data had previously been reported on by group, it was also analysed by ethnicity. Figures 6.22-6.24, below, shows the mean Dialect Density scores for all participants by ethnicity and group.

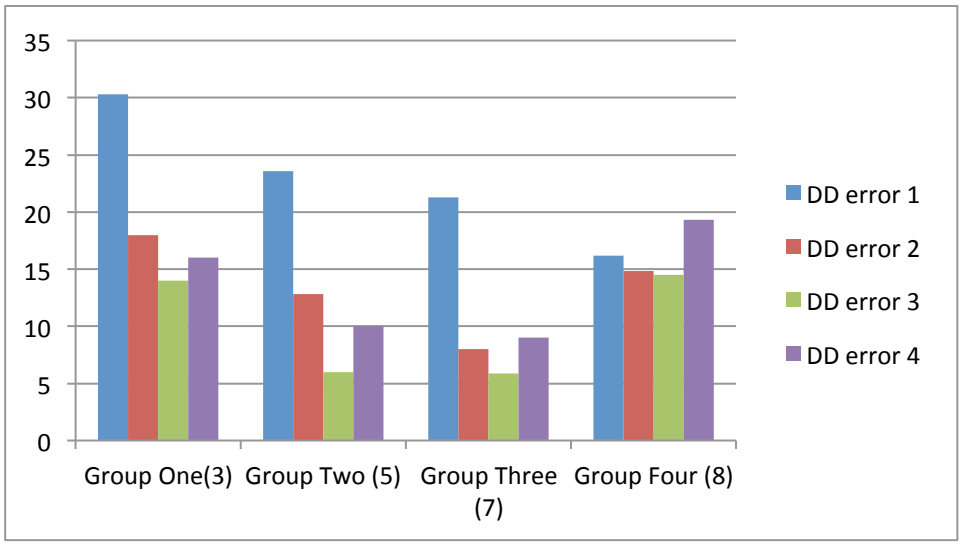


Figure 6.22 Dialect density for New Zealand European participants by group.

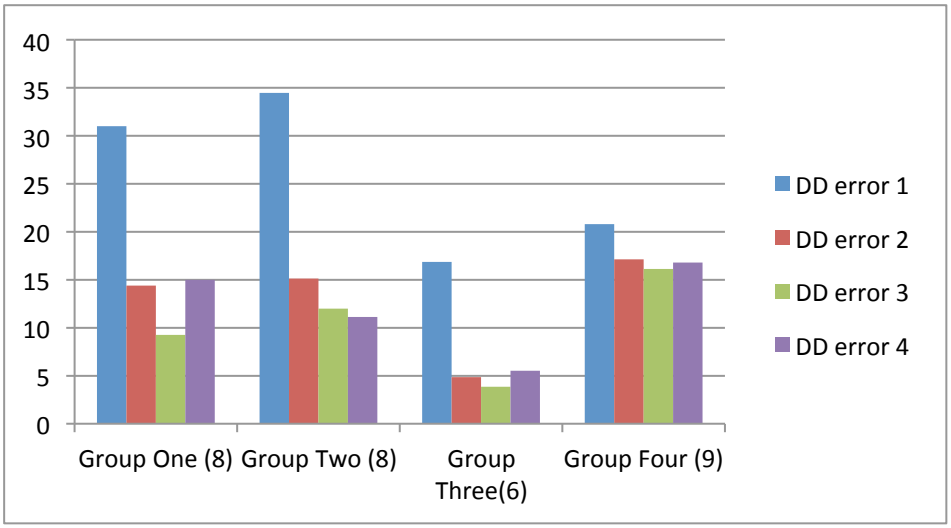


Figure 6.23 Dialect Density errors for New Zealand Māori participants by group.

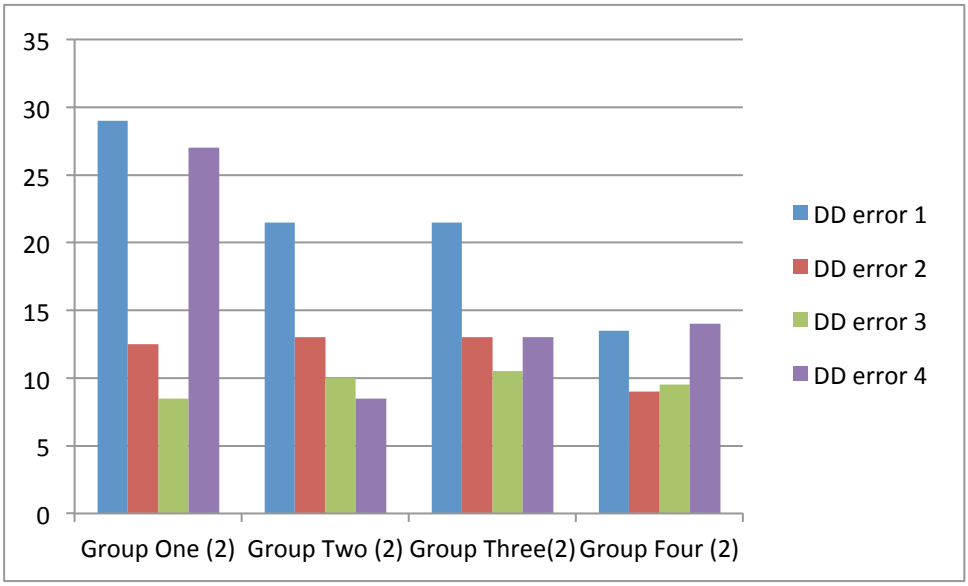


Figure 6.24 Dialect Density errors for Pasifika participants by group.

Evident in these three figures, is that the all participants in Groups One, Two and Three decreased the Dialect Density that they recorded in repeated sentences, over the full course of the study. Only the New Zealand Māori participants in Group Four were able to decrease their mean number of errors over the study.

While all participants in Group One recorded mean increases in Dialect Density from post intervention to follow up testing, Pasifika participants showed the largest increase during this six-month period.

In Group Two, New Zealand Māori and Pasifika participants continued to reduce their mean dialect density, while New Zealand European participants showed and increase after the six-month period. The New Zealand Māori participants in this group showed the largest mean decrease over the whole study, for any group or ethnicity. No New Zealand European participants within the entire study were able to sustain reductions in dialect density over the period of the study.

While the intervention study was conducted to establish if including an awareness of dialect difference with a phonemically based intervention programme, would improve

outcomes for struggling readers and writers, it became apparent through the testing process, that there were some aspects of the dialect which appeared to have not been referred to in previous studies of New Zealand English or dialects to date (see Chapter Three).

Thus, a more in depth analysis of the types of differences between standard English and the dialect of non standard English seen in the schools involved in the study, was carried out and is reported on in the final part of this results section.

6.4.9 Individual results. One individual from each group, that being the participant with the lowest Reading Recovery level, as nominated by their teachers was chosen for a more in depth analysis of their results. Initial pre intervention results for these four participants are given in Table 6.16

Table 6.16 Individual Pre Intervention Data

Child	Ethnicity	Gender	Age*	RRL	Write	Peters*	Burt*	PA	D errors
1m	P	F	72	2	1.1	60	67	3	33
2q	E	F	81	14	1.1	74	69	20	20
3f	P	M	100	12	1.1	68	77	35	22
4e	E	F	112	6	1.1	66	67	1	31

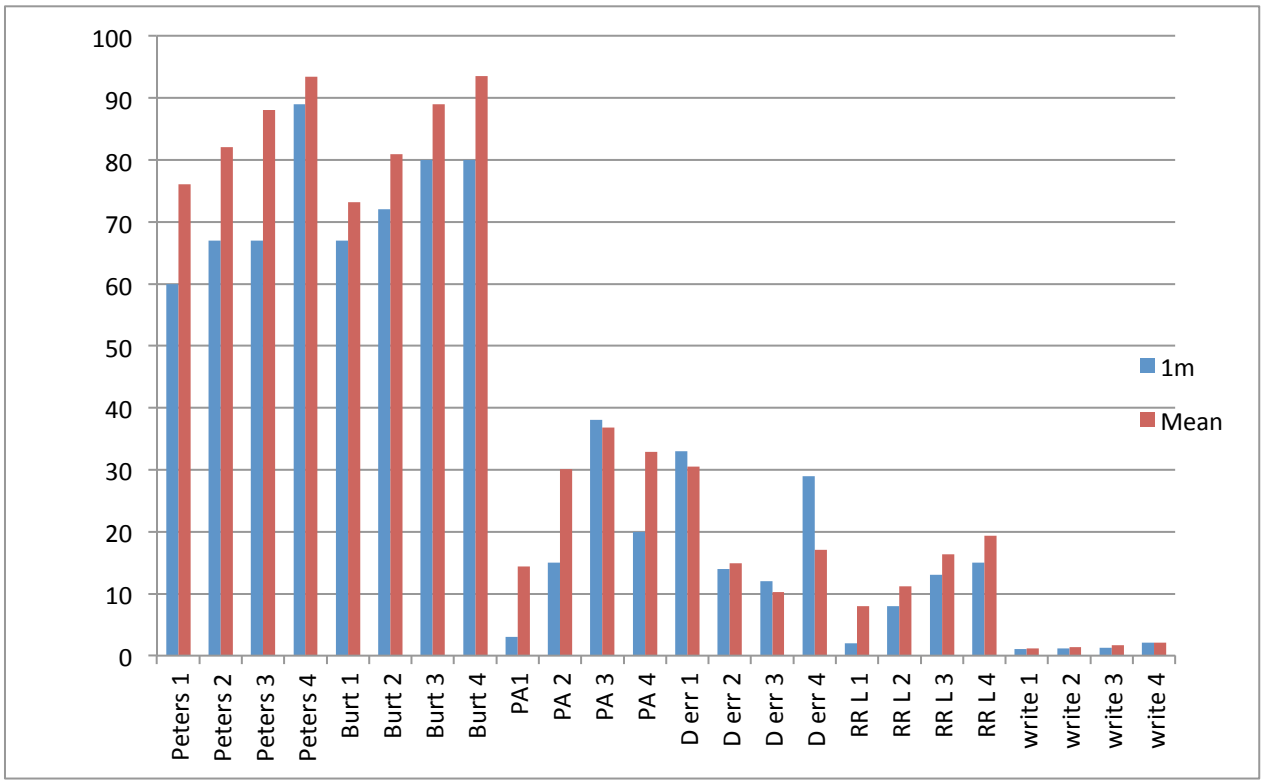


Figure 6.25 Participant 1m results compared to Group One mean results.

Figure 6.25 shows that participant 1m was behind the mean score for her group in all measures, including the Running Record of Oral Reading and writing information supplied by her teacher. In Dialect Density, she had more errors than the mean for Group One. In Spelling Age, her Peters Spelling Age Test results show that she remained more than ten months behind the mean for Group One until the follow up testing, where she had closed the gap to just 4.46 months. This more rapid progress between the post intervention and follow up testing did not reflect the mean scores for the group as a whole.

Burt Word Reading Age results for participant 1m show an increase of 13 months during the intervention phases of the study, followed by no progress at the six month follow up testing.

In phonemic awareness, 1m started below the mean for her group, but at post intervention testing, had overtaken the mean score by a slight margin of 1.24 points or correct

items out of a total of 42. At follow up testing, she had dropped back to 12.92 points behind the mean.

With dialect density, 1m started the study with 2.53 more errors than the mean for Group One. She dropped to a level slightly behind the mean at the mid-point of the interventions, then to slightly ahead at the post intervention testing. Her ability to reduce errors was not sustained and she jumped back to just four less than her pre intervention level at the post test.

According to the Running Record of Oral Reading information from her teacher, 1m progressed at a similar rate to the mean for her group and remained below that mean throughout the study. Writing information supplied by the teacher shows that 1m remained at the same level for the 16 weeks of the intervention phase of the study, recording an improvement to be almost level with the mean, with just 0.01 of a level the difference at follow up testing. As discussed earlier in the group analysis, the Running Record of Oral Reading and asTTle writing scores are subjective and not generally considered to be statistically accurate. In this particular study, the use of the Control Group as a direct comparison means that there is reason to include these results as viable.

Overall, participant 1m responded to the intervention with greater improvement than the mean for Group One in; Spelling age, phonemic awareness, Running Record results and asTTle writing results.

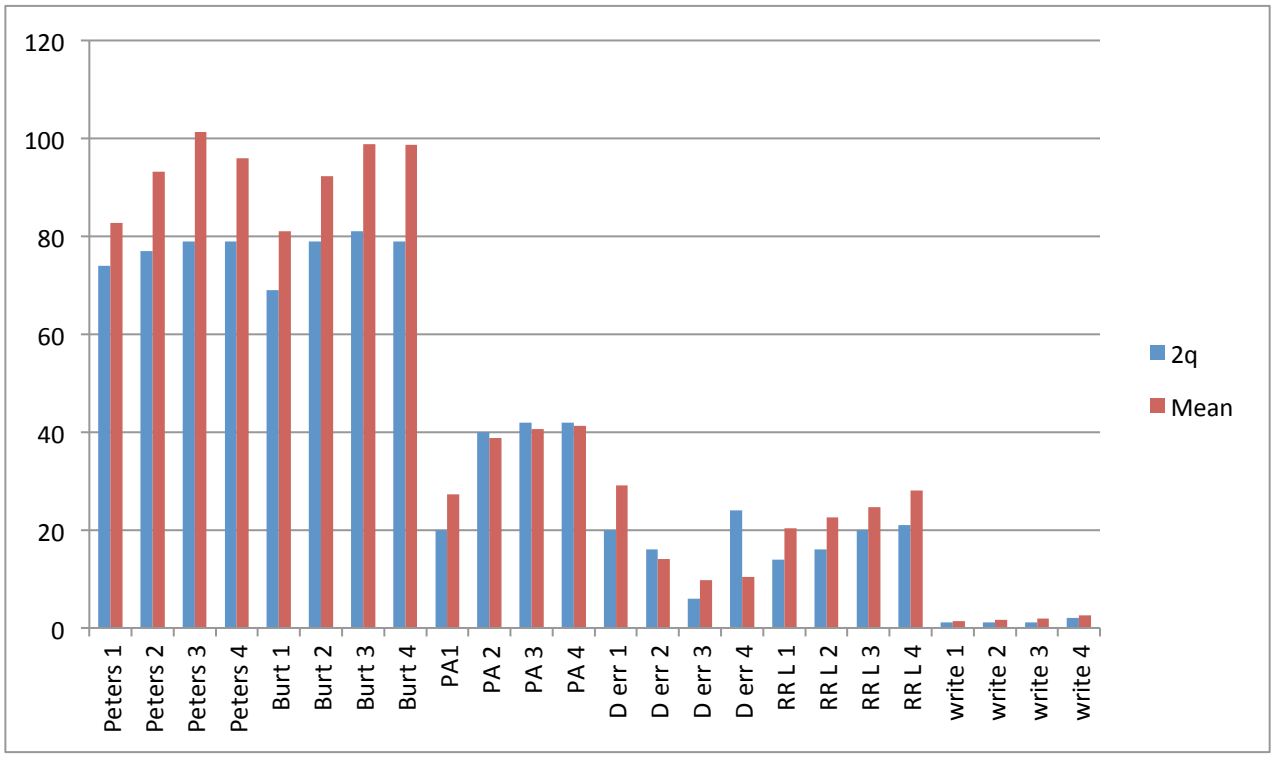


Figure 6.26 Participant 2q results compared to Group Two mean results.

Figure 6.26 compares the mean results for Group Two with participant 2q. In Spelling Age, 2q made little progress throughout the course of the study, with just five months progress in spelling age in total. The mean result for Group Two was 13.1 months progress. The Burt Word Reading Age mean progress for Group Two was 17. 67 months while the progress for 2q was 10 months.

The results for phonemic awareness show that participant 2q improved more than the mean for the group. She started below the mean but finished the study above the Group Two mean.

Having started the study with lower dialect density than the mean for the group, participant 2q finished the intervention phase with less but at the follow up testing recorded 13.6 more errors than the mean.

The Running Record of Oral Reading information showed 2q moving up 14 Reading Recovery levels over the 15 months of the study, while the mean for Group Two was a

movement of just 7.73 Reading Recovery levels. In the asTTle timed writing information, participant 2q remained on the same level for the first two testing sessions, then moved up one level at post intervention testing, followed by a movement of 3 levels at follow up testing. This was a similar but lower movement than the mean for the group.

Overall, participant 2q made more improvement than the mean result for Group Two in Phonemic Awareness and Reading, as presented in the Running Record of Oral Reading information.

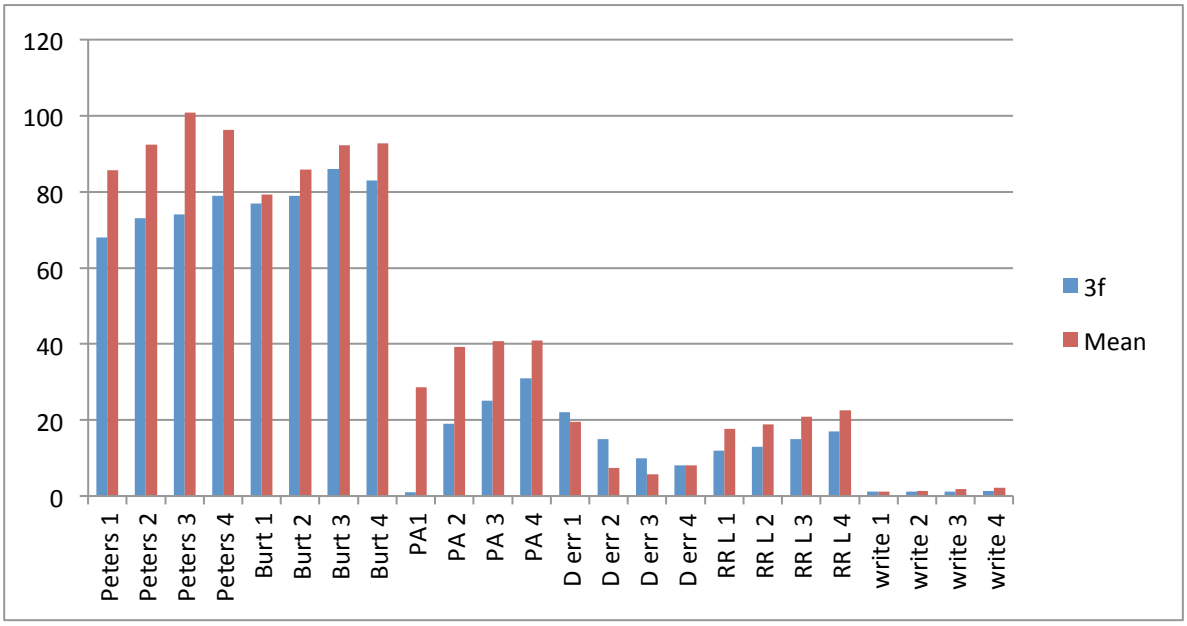


Figure 6.27 Participant 3f results compared to Group Three mean results.

Figure 6.27 compares the mean scores for Group Three and participant 3f. At the start of the study, participant 3f had a spelling age that was 17.7 months behind the mean for Group Three. At follow up testing, the gap had narrowed slightly to 17.2 months behind in the Burt Word Reading Age Test, 3f was 2.3 months behind the mean for the group, but this stretched out to 10.73 months at the follow up testing, meaning that participant 3f did not progress at the same rate as the mean for Group Three.

Having started the study with just a score of one correct item out of 42 in the phonemic

awareness test, participant 3f was 27.6 points behind the mean for his group. This disparity had been reduced to 20.2 after the first eight weeks of the intervention. As the mean for Group Three reached ceiling, 3f continued to improve, finishing with a total of 31, ten points behind the mean.

Reductions in dialect density were steady for participant 3f, who, having started the study with 1.5 more errors than the mean, finished it with 0.03 more errors. The Running Record of Oral Reading information shows that the difference between the mean score for the group and participant 3f's remained reasonably steady throughout the study. At the four testing sessions, the differences were 5.6, 5.86, 5.86 and 5.53, with 3f being behind at each session.

The information for the asTTle timed writing sample show that 3f moved from level 1.1 to 1.3 over the course of the study, which equates to 24 months of progress from a teaching perspective. At the same time the mean for the group moved four levels, or approximately one and a half years of progress. It is pertinent to note the subjectivity of both the Running Record of Oral Reading and asTTle timed writing sample information here, as described in Chapter Four.

Overall, participant 3f progressed at a similar rate to the mean for his group in measures of spelling age, and reading, as informed by the Running Record of Oral Reading results. He made better progress than the mean for the group in phonemic awareness and dialect density, and less progress than the mean in the Burt Word reading Age Test and the asTTle timed writing sample.

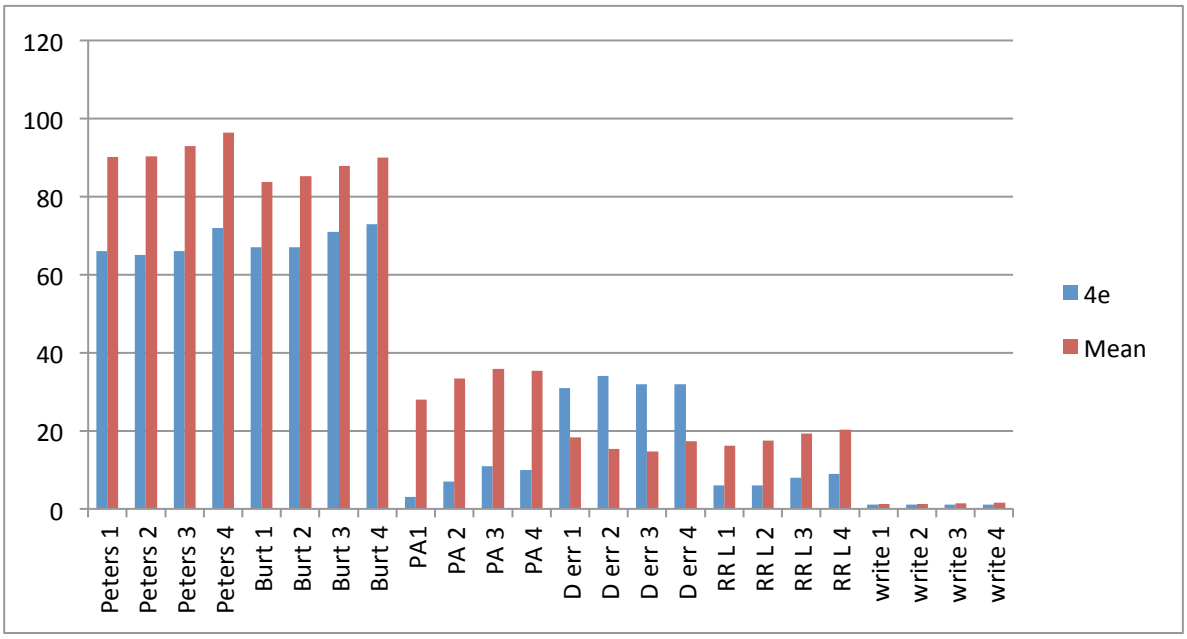


Figure 6.28 Participant 4e results compared to Group Four mean results.

Figure 6.28 shows the comparison between Group Four means and participant 4e means in all measures. As can be seen, 4e made very similar progress to the mean, but at a lower level in all areas. The only area where no progress at all was recorded was in the asTTle timed writing. Given that the spelling age, Burt Word Reading Age and phonemic awareness, indicates levels expected of a student aged between five and a half to six years of age in their first year of schooling, the writing level reflects this age range. The range of expectations within this level are varied, as can be seen in the matrix (Ministry of Education, 2011).

Participant 4e did not make as much progress as the individual participants in the other three groups.

6.4.10 Dialect density and characteristic analysis. In Study One (see Chapter Five) commonalities and differences between the dialect of the two participants and Maori English, New Zealand English and African American English were made. In this current study, individual utterances were recorded and noted from each testing session. For the purposes of

facilitating dialect comparisons, dialect data from each testing occasion is reported on in this section. Results for dialect differences from the initial pre intervention testing are shown in Table 6.17.

Table 6.17 Dialect difference type and occurrence at initial testing by group and frequency.

Characteristic	**Group 1**	**Group 2**	**Group 3**	**Group 4**	**total**	**Average**
v/th*	82	50	34	49	215	53.75
f/th	34	40	33	35	142	35.5
n/th	2	1	2	0	5	1.25
d/th	66	103	32	38	239	59.75
ulla	3	1	1	2	7	1.75
rd/ght	9	7	9	4	29	11.6
gonna	6	8	9	10	33	8.25
omitted s	2	0	2	0	4	1
omitted n	4	3	3	2	12	3
omitted t	19	29	16	18	82	20.5
omitted d	36	33	18	21	108	27
dropped h	6	9	3	5	23	5.75
omitted k	2	3	1	1	7	1.75
toppa	6	3	6	12	27	6.75
in/ing	32	40	36	38	146	36.5
w/r	2	3	0	0	5	1.25
shr/tr	1	0	0	0	1	0.25
or/ll	2	5	1	3	11	2.75
ch/tr	2	3	1	1	7	1.75
Newst/used	4	1	0	2	7	1.75
ch/t	5	5	4	3	17	4.25
d/n	0	3	1	0	4	1
y/ll	1	1	3	0	5	1.25
t/d	1	2	0	1	4	1
w/le	1	2	3	0	6	1.5
ch/dr	0	1	0	2	3	0.75
bb/th	0	1	0	2	3	0.75

* In all instances, the first sound is the one produced the second sound is the Standard English expectation.

As can be seen in this table, the most common Dialect Differences or characteristics recorded were those involving /th/ fronting, where the /th/ was replaced with either a /f/, a /d/ or a /v/ sound. Omitting the final /t/ or /d/ sound were also common as was omitting the /g/ in "ing" to produce an "in" sound. One dialect difference, recorded in Study One and also in this study is the substitution of the word "Newst" for "used". The relevance and impact of this along with its occurrence in writing and spelling will be discussed in the discussion section of this chapter as well as the discussion in Chapter Eight of this thesis.

The comparisons between these common characteristics or dialect differences and previously identified dialects such as New Zealand English, Māori English, and African American English (see Chapters Three and Five), will be made in the discussion chapter, Chapter Eight of this thesis.

Over the course of the study, the frequency of occurrences of the above errors changed. At the mid-point, (after eight weeks) of the interventions. The frequency or dialect density had reduced for most of the characteristics or errors. This is indicated in Table 6.18. Highlighted numbers indicate an increase in occurrence of a specific characteristic by a particular group.

Table 6.18 Dialect difference type and occurrence at mid-point testing by group and frequency.

Characteristic	Group 1	Group 2	Group 3	Group 4	total	Average
v/th*	20	30	19	48	117	29.25
f/th	25	31	16	32	104	26
n/th	6	0	0	0	6	1.5
d/th	25	34	4	42	105	26.25
ulla	2	2	1	1	6	1.5
rd/ght	4	5	2	5	16	4
gonna	5	5	4	8	22	5.5
omitted s	1	0	1	0	2	0.5
omitted n	0	1	0	1	2	0.5
omitted t	9	10	5	13	37	9.25
omitted d	11	7	6	17	41	10.25
dropped h	9	2	0	5	16	4
omitted k	0	0	0	0		0
toppa	2	1	1	10	14	3.5
in/ing	21	19	6	21	67	16.75
w/r	1	2	0	0	3	0.75
shr/tr	0	0	0	0	0	0
or/ll	0	0	1	0	1	0.25
ch/tr	0	0	0	0	0	0
Newst/used	1	0	0	1	2	0.5
ch/t	1	4	3	3	11	2.75
d/n	0	2	0	0	2	0.5
y/ll	0	1	1	0	2	0.5
t/d	0	5	1	2	8	2
w/le	1	3	0	0	4	1
ch/dr	0	0	0	1	3	0.75
bb/th	0	0	0	1	3	0.75

Table 6.18 shows that the frequency of dialect error or characteristic of /th/ fronting or replacing the /th/ in a word with either a /f/ or a /v/ sound decreased in total and average by almost half. This was mainly due to Groups One, Two and Three results. The replacing of the

/th/ sound with a /d/ sound reduced for all the groups apart from Group Four, who increased the frequency of this sound by four occurrences. The use of the word “newst” in the place of used was reduced by all groups that had originally been identified as having this characteristic. At the post intervention testing, all characteristics/error were once again recorded. The results are in Table 6.19.

Table 6.19 Dialect difference type and occurrence at post testing by group and frequency.

Characteristic	**Group 1**	**Group 2**	**Group 3**	**Group 4**	**total**	**Average**
v/th*	16	24	14	45	89	22.25
f/th	25	12	12	32	81	20.24
n/th	1	0	0	0	1	0.25
d/th	21	28	4	22	75	18.75
ulla	1	1	0	1	3	0.75
rd/ght	1	5	1	5	12	3
gonna	4	3	4	8	19	4.75
omitted s	1	0	0	0	1	0.25
omitted n	1	1	0	1	3	0.75
omitted t	5	9	4	13	31	7.75
omitted d	14	7	6	15	43	10.75
dropped h	4	1	0	5	10	2.5
omitted k	0	0	0	0	0	0
toppa	1	0	0	9	10	2.5
in/ing	18	14	7	22	61	15.25
w/r	0	2	0	0	2	0.5
shr/tr	0	0	0	0	0	0
or/ll	0	0	0	0	0	0
ch/tr	0	0	0	0	0	0
Newst/used	1	0	0	1	2	0.5
ch/t	0	4	2	3	9	2.25
d/n	0	2	0	0	2	0.5
y/ll	0	0	0	0	0	0
t/d	0	3	0	1	4	1
w/le	0	4	0	0	4	1
ch/dr	0	0	0	1	1	0.25
bb/th	0	0	0	1	1	0.25

Table 6.19 shows that after the second eight weeks of interventions, the Dialect Density continued to decrease for all four groups in most of the characteristics. Groups One, Two and Three who had received more intervention than Group Four, continued to show more reductions than Group Four. The exceptions were;

- omitting the final /d/ sound, where Group One added three occurrences to their total
- pronouncing /ing/ as /in/, where groups Three and Four both added one occurrence to their totals.
- Replacing a /le/ ending with a /w/ sound, where Group Two added one to their total.

As on the three previous testing sessions, dialect difference was again measured in the follow up testing sessions. Results for this data are shown in Table 6.20.

Table 6.20 Dialect difference type and occurrence at follow up testing by group and frequency.

Characteristic	Group 1	Group 2	Group 3	Group 4	total	Average
v/th*	29	17	10	21	77	19.25
f/th	30	34	20	33	117	29.25
n/th	4	4	0	4	12	3
d/th	19	1	6	18	44	11
ulla	5	5	2	6	18	4.5
rd/ght	10	4	6	11	33	8.25
gonna	3	5	10	8	26	6.5
omitted s	2	0	0	0	2	0.5
omitted n	1	1	2	6	10	2.5
omitted t	10	19	8	25	62	15.5
omitted d	11	10	6	13	40	10
dropped h	6	6	6	9	27	6.75
omitted k	0	0	0	2	2	0.5
toppa	5	3	6	11	25	6.25
in/ing	26	28	23	47	124	31
w/r	4	6	0	1	11	2.75
shr/tr	0	0	0	0	0	0
or/ll	1	0	1	9	11	2.75
ch/tr	0	0	0	1	1	0.25
Newst/used	2	3	3	2	10	2.5
ch/t	4	1	0	1	6	1.5
d/n	1	0	1	0	2	0.5
y/ll	0	0	0	4	4	1
t/d	0	4	1	0	5	1.25
w/le	0	0	0	1	1	0.25
ch/dr	0	0	0	0	0	0
bb/th	0	0	0	1	1	0.25

Table 6.20 shows that having had no intervention sessions for six months, all groups had increased their frequency of dialect errors occurring in many of the characteristics. The use of the sound /f/ in place of the /th/ sound increased for all groups, but did remain below

the frequency noted at the pre intervention testing. The characteristic or error of omitting the final /g/ sound in “ing” to produce an ‘in’ sound also increased for all the groups at follow up testing. Groups One, Two and Three did remain below their pre intervention frequency. Group Four increased beyond the frequency recorded at their pre testing session. Group One was the only group to increase the use of /v/ for the /th/ sound at follow up testing, moving from 16 to 29 occurrences. This was still less than half the frequency recorded at their pre intervention testing though.

6.5 Discussion

Having analysed the data gathered from the four testing occasions, the results will be discussed as per their analyses. Thus; results per group, results by ethnicity, results for selected individuals and the dialect difference results.

6.5.1 Results by Group. Over the course of the intervention study, which was approximately 15 months, all groups recorded mean gains in Spelling Age, Reading Age (as per the Burt Word Reading Age Test), reading levels, as per the Running Record of Oral Reading, phonemic awareness and Writing level (as per the asTTle timed writing sample). All four groups also recorded mean decreases in the dialect density or occurrences of dialect difference features of oral language. As expected, the three groups who received the most intervention time (Groups One, Two and Three) made larger mean gains than the control group (Group Four) in all measures. This supports the literature and the hypothesis that a tier three intervention would be more beneficial than classroom teaching alone, for children who are not only struggling to attain appropriate levels of literacy skills, but who also speak a variety of non-standard English, as opposed to the standard English used in texts and for literacy learning.

The expected larger gains, by Group Two, who received the intervention containing the

Phonemic Awareness and Dialectal Awareness components, was not realized. The gains were much closer than expected, with Group Two making marginally (but not statistically significant) better gains in the areas of writing and reduction of Dialect Density only. Given the subjective nature of the asTTle timed writing sample, as discussed in Chapter Four, this writing result is interesting from a teaching point of view, but possibly not statistically relevant.

Research into dialect density/differences and literacy outcomes (see Chapter Three, 3.2) suggest that lowering the incidence of dialectal utterances can lead to better performance in literacy measures, therefore these results may suggest that the participants in Group Two, if they continue to decrease the use of dialectal features, may be able to code-switch earlier, thus improving their literacy level. This present study did not involve any later follow up testing, so it is not possible to say that this will or has occurred for this particular group of participants.

Three points that do emerge through the analysis of the group data, are that (i) the mean gains by Group Two were similar to those by Group One in some measures, (i) mean gains by Group Three were similar to those by Group Two in some measures and (iii) Group One had a mean chronological age and mean phonemic awareness ability that was significantly below that of the other three groups.

6.5.1.1 Similarity between groups one and two. In the measure of phonemic awareness, Group One made larger gains than the other three groups, but having started at a significantly lower level, they had more scope to improve, without having the influence of the ceiling effect occur. In a comparison between Groups One and Two however, it is interesting to note that Group Two's mean gains at follow up testing were only 4.54 items correct less than those of Group One. Given that research suggests that phonological awareness training, particularly in phonemic awareness is the most successful way to improve reading outcomes

for struggling readers (see Chapter Two), Group One, who received eight hours more phonemic awareness training than Group Two, did not perform significantly better than Group Two on this task. Similarly, with the result for Burt Word Reading Test, Group Two's mean gains were only 2.63 months less than the mean gains for Group One. While this result does not entirely support the hypothesis, it does suggest that there may not be such a great difference in the use of Phonemic Awareness training only, when compared to Phonemic Awareness and Dialectal Awareness training when phonemic awareness and individual word reading skills are measures.

6.5.1.2 Dialectal awareness compared to phonemic awareness and dialectal awareness. Group Three received Dialectal Awareness training only (see description in the method section of the chapter), but some of the results for this group appear to be similar to those reported on for Group Two. In phonemic awareness, as reported in Table 6.9 and Figure 6.4, Groups Two and Three started with mean results that were just 1.3 correct items different. At the conclusion of the study, they were 0.33 items different, with Group Two having made a larger mean gain of 1.67 items. Given that Group Three had eight hours less Phonemic Awareness training, this could suggest that Dialectal Awareness training, which included onset/rime patterns in written form, could be similarly effective in improving phonemic awareness. When considering a direct comparison between the two interventions, looking at the results after the first eight weeks of intervention (testing session PA2) it can be seen that the mean improvements for Group Two and Group Three were only different by 0.94 items, with Group Two recording the slightly larger gain. Thus, the difference in effectiveness of Phonemic Awareness training only, as a means to improving phonemic awareness, does not seem to be significant in this particular study, which is not a reflection of the literature as discussed in Chapter Two.

6.5.1.3 Disparity in chronological age and phonemic awareness in group one. Initial data pertaining to the characteristics of each of the treatment groups reveals the disparity in mean chronological age for Group One compared to the other three groups in the study. This proved to be influential on the results for phonemic awareness, Spelling Age, and the Running Record of Oral Reading. It did not have such a great impact on the asTTle timed writing sample or the Dialect Density measure (other than Group One incurring the largest increase of dialect difference errors at follow up). Given the age disparity and particularly the phonemic awareness disparity, and the literature pertaining to Phonemic Awareness as a predictor of literacy outcomes (see Chapter Two), this disparity appears to have been crucial to the results gained. Because of the disparity, (which came about due to the availability of suitable participants at the three schools involved in the study), it is not possible to draw conclusions as to the effectiveness of the interventions used. Because of this, it was decided to conduct a follow up study, with phonologically matched groups. This study, Study Three, is reported on in Chapter Seven.

6.5.2 Results by Ethnicity. As the discussions of the literature have revealed (see Chapters Two and Three), results of class room teaching (tier one) and tier two and three interventions vary for children, when looked at with regard to ethnicity. Because there is an over representation of Pasifika and New Zealand Māori children in New Zealand, amongst those who are struggling to attaining appropriate levels of literacy, results for the different intervention groups were analysed by ethnicity, to ascertain if there was any particular intervention or treatment, that could be deemed more effective for any specific ethnic group. The numbers of participants within each of the ethnic groups, New Zealand European, New Zealand Māori and Pasifika, varied within each of the intervention groups. This made direct comparison less statistically viable. Also, the number of Pasifika participants was limited to just two in each group, thus such low numbers are not considered to be robust when

comparing data. Overall, some results that do appear interesting are; (i) Individual word reading results, (ii) spelling age results and (iii) Phonemic Awareness results

6.5.2.1 Individual word reading results. Based on the Burt Word Reading Age Test, New Zealand European participants in Group One, had better gains than those in the other three groups, suggesting, that Phonemic Awareness training is a more effective intervention method with relation to improvement in individual words reading, for New Zealand European students. All New Zealand European participants were closely matched at pre-intervention testing. For New Zealand Māori participants, the most effective intervention for improving individual word reading ability also appears to be the Phonemic Awareness training programme. Although, when results for the first eight weeks are taken in to consideration, New Zealand Māori participants in Group Two, receiving the Phonemic Awareness and Dialectal Awareness intervention, made larger overall gains than those receiving the Phonemic Awareness only programme (see Figure 6.7). As mentioned previously, the small numbers of the samples involved in this study prevent any claims as to one treatment suiting a certain ethnic group more than another. More research would be required for this to be confirmed.

For Pasifika participants, the Phonemic Awareness and Dialectal Awareness programme of Group Two, appears to have been more successful. Although starting with higher mean word reading ages, the participants in Group Two also made the largest gains. Whether or not this is directly attributable to the programme they received, or because they began with better skills is not possible to contend from this small sample. It could be that the Pasifika students also recorded the highest Phonemic Awareness scores than Pasifika participants in the other three groups, thus maintaining the contention of the literature, that Phonemic Awareness is a predictor of reading ability.

6.5.2.2 Spelling age results. New Zealand European and New Zealand Māori

participants, in Groups One and Two, started the study with similar spelling ages, as per the Peters Spelling Age Test. The New Zealand European participants in Group One achieved better gains than their New Zealand Māori counterparts (see Figures 6.7 and 6.8). This suggests that the Phonemic Awareness training programme was more successful in improving phonemic awareness, for New Zealand European participants. Within Group Two, the New Zealand Māori participants made better gains in Spelling age than their New Zealand European counterparts, suggesting that the combination of dialectal awareness training with the Phonemic Awareness training was more effective for New Zealand Māori participants.

6.5.2.3 Phonemic awareness results. Interestingly, despite Group One recording the lowest mean phonemic awareness score pre-intervention, the scores for New Zealand European participants in Groups One and Two were very similar. Looking at overall gains in Phonemic Awareness ability, the New Zealand European participants in Group Two actually made better gains than those in Group One. Thus, while the Phonemic Awareness programme mean results by group, indicated that it was more effective than the other interventions, it would appear, that the Phonemic Awareness and Dialectal Awareness intervention was more successful for the New Zealand European participants, in improving their phonemic awareness. This was not included as an expected outcome in the original hypothesis for the study, but may warrant further investigation. For New Zealand Māori participants, the Dialectal Awareness only intervention, as received by Group Three seems to be as effective as the Phonemic Awareness and Dialectal Awareness intervention received by participants in Group Two. A direct comparison of the first eight weeks of the study where the interventions were different, reveals only a 0.2 difference in improvement between the mean scores for New Zealand Māori participants. It is not possible to propose that the Dialectal Awareness feature of the interventions is directly correlated to these results, but as with other results with

small sample sizes, it does suggest that there may be scope for further investigation.

Individuals, within each of the four treatment groups were analysed, in order to establish if any of the specific interventions was better suited to improving outcomes for the lowest performing participants.

6.5.3 Results for Individuals. The mean ages and capabilities of the groups were not even, thus when analyzing the lowest performing participant, based on the Running Record of Oral Reading level, provided by the teachers, the lowest performing in each group was also not even. The participant from Group One, was younger and performed less well on all measures other than phonemic awareness, than the other three participants reported on. Interestingly, her follow up results, showed better results than the mean for Group One in Spelling Age and writing level. In these two measures, she was able to make better gains in the period between the post testing and the six month follow up, than the mean results for the group as a whole. While the mean score for the group did also show continued improvement in the time from post testing to follow up, the individuals marked improvement in spelling age particularly, improving by 22 months over the six month period is remarkable. During this six month period, New Zealand schools had their six week summer vacation, which can results in a dropping back of literacy levels, particularly for those who struggle (Tiruchittampalam, 2016). The participant also moved to a new class with a new teacher during this time, as did all the participants, so it is not possible to ascertain the sum of the factors that may have played a part in this rapid increase, when compared to the mean for her group. This is not consistent with the results by Ethnicity, where the Phonemic Awareness programme received by Group One, appeared to be more beneficial for the New Zealand European participants, and she identifies as being of Pasifika descent.

The participant from Group Two, progressed at a similar rate to her cohorts, but remained similarly behind the group mean from the start to the conclusion of the study. She

did make better gains in phonemic awareness than the mean resulting gain for her group. In contrast to the individual participant for Group One, this participants results back up the contention that the Phonemic Awareness and Dialectal Awareness programme worked better for improving phonemic awareness in the New Zealand European participants.

In Groups Three and Four, the individual participants also performed similarly to their cohorts as far as rate of progress was concerned. It may have been useful to directly compare individuals from one treatment group to the next, but their pre intervention levels were not comparable across all measures, so this would not be viable. There was some similarity between the pre intervention levels of the participant in Group One and the Participant in Group Four. Hence, looking at subsequent testing results for these two individuals, supports the literature with regard to phonemic awareness training and improving outcomes for children struggling to attain literacy skills, as the participant from Group One made better gains than the participant from Group Four, the control group, who received less tier three instruction.

As a predictor of literacy outcomes, Dialect Density and characteristics were reported on. The information was also recorded, to inform possible definitions as to the type of non-standard English being spoken in the schools involved in the research. This will be discussed further in Chapter Eight of this thesis.

6.5.3.1 Dialect density and characteristics results. The results tables (6.12-6.15) document the characteristics and frequency of utterances, by group over the course of the study. Some features, as in Study One (see Chapter Five) were consistent with Māori English, New Zealand English and with African American English (see Chapter Three). While it would seem understandable that a non-standard English spoken in New Zealand would contain dialect features consistent with those reported as part of Māori English and New Zealand English, the inclusion of features pertaining to African American English are

less clearly explained. The possibility of American television and/or music influencing the speech of the participants is one suggestion. Subsequently, the prevalence of video type games with American voice graphics could be another. This is explored more in the final discussion in Chapter Eight. One specific feature that stands out is the use of *'newst'* in the place of *used*, both verbally and in writing samples. This appears to be specific to this study, and has not been documented as being a feature of any of the forms of Non-standard English discussed in the literature (see Chapter Two and Three).

The ability for participants to reduce their frequency of dialectal utterances, particularly within the three groups who received the most intervention time, indicates that it is possible to change speech patterns, at least in the context of a testing situation. Given that many of the dialectal characteristics returned to the participants speech after six months without contact with the researcher, may indicate, that more constant reminding and interaction with correct role modeling may be required to sustain changes in speech with the children in the age range of those participants in the study. Once again, this is explored further in Chapter Eight.

6.6 Conclusion

Taken together, the results gained from this study, enable some conclusions to be made. The most imperative would seem to be the requirement for further research involving the intervention treatments used for Groups One and Two, using more closely matched groups, particularly in the phonemic awareness measure. This may enable a better comparison as to the effectiveness of the two treatments, and inform the direction that further research could take. Thus, Study Three was embarked upon, and is reported on in Chapter Seven.

Chapter Seven

Study Three: Follow up Study with Phonologically Matched groups

7.1 Introduction

While the results from Study Two were somewhat encouraging with regard to improvements made by the participants in the Phonemic Awareness group and the Phonemic Awareness and Dialectal Awareness groups in particular, it has been noted that one of the most significant limitations of Study Two was the lower ability levels of the participants in Group One, the Phonemic Awareness group, particularly in their phonemic awareness. They were also slightly younger on average than all the other participants. Therefore, to ascertain the effectiveness of the intervention programmes, a third study was carried out after discussions with supervisors. The suggestion was that the Phonemic Awareness intervention and the Phonemic Awareness and Dialectal Awareness intervention be run again, on a smaller scale with phonologically matched groups. This is consistent with quantitative research methodology (Cohen et al., 2001)

7.2 Aim

The aim of this third study was to establish if the results, that indicated some increases in literacy skills, particularly improvements in whole text reading, phonemic awareness and spelling from Study Two, could be replicated with phonologically matched groups of participants. The hypothesis is, that this study will show improvements beyond what could be expected from classroom teaching alone, but that the large gains made by the Phonemic Awareness group from Study Two, will not be seen as both groups are more closely matched,

and therefore should have similar margins to gain.

7.3 Method

7.3.1 Participants. As with Studies One and Two, schools that were known to be of a low decile ranking were approached by email to arrange meetings with the Principals and literacy advisors as to the possibility of allowing access to students for the purpose of the interventions. Once again, written permission was obtained. From four school Principals approached, two agreed to be involved in the study. One of the schools had been involved in Study Two, however, none of the same classroom teachers or students were involved.

Thirty children were recommended for initial testing by either their classroom teachers or the schools' literacy advisors, based on their Running Record of Oral Reading of connected text results. All students recommended were in year 2 or 3 and were aged 6.5-8.0 years. As with studies One and Two, the Roper Phonemic Awareness (Roper, 1984) revised by Gough, Kastler and Roper and analysed by Nicholson, (2005) was used to establish the children's Phonemic Awareness ability.

Once this had been completed, a sample of 24 children were selected. Each school had 12 participants, which were formed into two groups of six for instructional purposes. One group of six received the Phonemic Awareness only programme, and the other received the Phonemic Awareness plus Dialectal Awareness programme, at each of the schools.

In total, there was an even distribution of six males to six females over the two treatment groups, with equal numbers (4) of New Zealand Māori, Pasifika and New Zealand European in each group.

Two students were chosen for individual study, one from each group, based on the teacher recommendation and information about reading ability based on the Running Record of Oral Reading. This mirrors the inclusion of individual participant reporting as in Study

Two (Chapter Six).

7.3.2 Procedure. Having gathered samples of the children's most current Running Record of Oral Reading from either their classroom teacher or the school's literacy expert (one of the participating schools has a full time literacy expert who was responsible for all the ongoing literacy testing in the junior school area), analysis was carried out as an oral prose reading sample, rather than record the recording the Running Record of Oral Reading/Reading Recovery Level result. A Running Record of Oral Reading, as discussed in Chapter Four, is not a standardized measure of reading and is considered to be a diagnostic tool, underpinned by the constructivist theory of reading as discussed in Chapter Two. Accuracy was recorded as a score of words correctly read out of 100 words within the text.

Having completed the phonemic awareness testing the previous week, using the Roper (1984) Phonemic Awareness Test, (see Chapter Four), there remained the spelling and dialect density testing to be conducted. It had been noted in the literature that standardized testing measures for children with dialect differences were not always valid (Charity et a., 2004; Maclagan, et al., 2008; Pearce et al., 2015; Pearson, et al., 2004; Peltier, 2010; Seymour et al., 2005) and that other researchers had developed their own tests based on information pertinent to the dialect of the children they were working with and also the information they wanted to gather from the participants. Therefore, based on previous research by Terry & Conner (2010), Pearson et al. (2009), and Seymour et al. (2005), and Professor Kate Nation (personal communication, 2014), it was decided that specific Dialect Sensitive Spelling Test and Oral Dialect Density Sentence Repetition Test would be developed.

7.3.3 Dialect Sensitive Spelling Test. This specific test discussed in Chapter Four and displayed in Figure 4.1 (also see Appendix two), is based on the common errors made by participants in the previous two studies. The results of this test and the manner in which the tests were marked and scored are presented in the results section of this chapter. The other

measure administered was the Dialect Density Sentence Repetition Task, also described in Chapter Four.

7.3.4 Dialect Density Sentence Repetition Test. As with the Dialect Sensitive Spelling Test, a Dialect Density test, which is discussed in Chapter Four and in Figure 4.2 (also see appendix two) was developed. The highlighted areas indicate the target dialect density areas of the words, while the red spellings below the words indicate possible expected pronunciations based on previous studies One and Two and the literature discussed in Chapter Three.

The results and scoring method for this particular test are presented in the results section of this chapter.

The Dialect Sensitive Spelling Test was administered to each group of 12 children at their own school, together. The sentence repetition task was performed individually with each child on their own on the same day as the spelling testing. To enable the study to be completed within a full school term of ten weeks, it was necessary to do both tests on the same day.

7.3.5 Writing measure. Time writing sample asTTle (Ministry of Education, 2011) results were gathered from the classroom teachers and literacy specialist to assess whether or not there would be any positive impact on their writing due to the interventions. Both schools had, at the end of the first school term (three weeks before initial testing), carried out the writing assessments, therefore it was deemed as not a requirement to ask the participants to do this again, as it was very recent information. Results of these assessments are provided in the results section of this chapter. A full description of this test is described in Chapter Four.

7.4 Intervention measures and procedures

With each of the intervention schools having just two groups of six students, it was

possible to complete the two half hour sessions within the schools' literacy block, which was for both schools, in the first block of learning time in the mornings, between 9 am and 10.30 am. One school had their sessions on Monday and Wednesday mornings and the other school on Tuesday and Thursday mornings. On each of the days, the group that had their intervention time first was alternated to ensure that they were not consistently missing the same part of the programme on both of the mornings. The interventions ran for a period of eight weeks, followed by a week for post intervention testing.

At both schools, Group One participants received a Phonemic Awareness programme only, as the Group One participants in Study Two had. Every endeavour was made to replicate the same programme as in Study Two (see format below). It was not always possible because of the differences in working spaces available at each of the schools. One school had a large open space with plenty of windows that afforded views of the playground and fields at the school, whereas the other had a very small working space with limited views. This was important, as some of the activities involved using items they could see outside (see description below).

7.4.1 Group One: Phonemic Awareness Programme. As with Study Two, this intervention was a games-based intervention, developed from a previous study (Belgrave, Everatt and Fletcher, 2014). Participants had two half-hour sessions a week that involved playing a variety of Bingo games (rhyming Bingo, initial, medial and final sound Bingo) that were variations and adaptations of those provided in the Phonological Awareness Kit (Gillon, 2004). 'I spy" games were played, initially lead by myself, and then by individual participants. Once again, adaptations included altering the focus from initial letter, to initial sound, final sound, medial sound and rhyming options. For example, "I spy with my little eye, something that sounds like tall (answer, *ball*), objects were either in the room or outside, depending upon which school I was at, at the time. The leader had to clearly identify whether

the object was in fact in the classroom or could be actually seen outside in the playground or on the field. They could not choose items, which were outside but not actually visible from that room.

To develop skills around phoneme deletion, substitution, segmenting and blending, oral games such as 'Who can say their name without the first sound?' and saying their names and the names of objects in the room and outside backwards. As with study two, these activities were enjoyed by most of the participants. It was noted however, that some students did find these activities particularly difficult compared to the children who had received this intervention in Study Two. Those participants who struggled the most, were those who had extremely low levels of phonemic awareness at pre-intervention testing.

7.4.2 Group Two: Phonemic Awareness Plus Dialectal Awareness Programme. Once again, the intention was to replicate the content of this intervention, from that delivered in Study Two, to Group Two. Therefore, this group received 15 minutes twice a week, of a shortened version of the Phonemic Awareness programme, followed by fifteen minutes of the Dialectal Awareness component, designed to heighten the participants' awareness of the difference between the way people sometimes pronounce words (non-standard English), and the correct way of writing them (Standard English). Based on the 'Common word families in English' (Pressley, 2006, p.167.), onset/ rime patterns were taught, beginning with one chosen by the researcher as having proven to be problematic in the pre-testing of the participants spelling. Patterns were also chosen specifically to highlight the dialect difference. In this study, both groups began with the 'ink' rime, as the /th/ fronting in these participants' was markedly strong, as shown by the results of both the dialect sensitive spelling test and the dialect detection sentence repetition task.

Having worked with the group on finding as many examples of words that contained the relevant rime pattern, the participants recorded them in their books, and then received a

dictated sentence to write down. Both groups of Group Two participants were very quick to suggest the onset rime f/ink (fink) instead of 'think', which was as expected and immediately provided the first opportunity to work on explaining dialect difference with them. At this point, a discussion ensued as to the way we most often say words and the way we write them down, or see them written down in the books we read. Following the discussion, a sentence was dictated to reinforce the spelling pattern and to ascertain transfer of any of the dialect differences we had discussed.

Several words from the onset/rime pattern were included in the sentence, as well as new patterns that I had identified as causes for concern or were being mispronounced due to the dialect difference. For example, the sentence dictated for the 'ink' rime was "I had to think very hard about the pink thing that was on the bed."

The highlighted words in this sentence indicate the words that were errors when the participants wrote it down. The errors were;

Had/havd think/fink hard/har/ard about/abow/bout the/va/da thing/fing/fink the/da/va

As in the previous study, Study Two, these errors were subsequently discussed with the group, to enable them to understand the dialectal difference between their non-standard English and standard English. It was important to keep the discussions friendly to ensure that participants were aware that it was perfectly alright to pronounce the words the way they did, but that they would subsequently need to learn the correct spelling patterns for the words.

In the following session, one or two of the errors would then form the basis of the onset/rime or spelling pattern to be taught. In this way, there was no prescribed progression in this part of the intervention. Each instructional group, while receiving the same programme, did not in fact receive it in exactly the same order as the group from the other school, but

because there were only two groups, the sessions did mirror each other more closely than they had in study two.

In both cases, the second lesson for these groups involved the ‘ing’ rime, to facilitate reinforcement of the spelling of the /th/ sound in words where /th/fronting was prevalent, i.e., ‘thing’.

Limitations of the working environments, as well as other factors that impacted on the eight weeks of intervention procedures are discussed in the discussion section of this chapter.

7.5 Results

As with Study Two, (see Chapter Six) results are presented for all four measures by mean group results. Following that, results by ethnicity per group are reported. Once again, one individual from each group was chosen to compare with the progress made by similar individuals from study two. Finally an analysis of the dialect differences/density is reported on, including an analysis of specific dialect features.

7.5.1 Timed Writing Measure. Curriculum level expectations are as discussed in Study One (Chapter Five), and in Chapter Four of this thesis. Assessing writing using the matrix is a subjective process. These results are included to give a guideline as to any progress made and are not considered to be scientifically robust assessments. Comparisons between these results and the measures tested in the study will be made, as in Study Two (Chapter Six). Schools in New Zealand would consider normal progress to be one (sub)level every six to eight month (Ministry of Education, 2009).

Table 7.1 Mean asTTle timed writing sample results by group.

Group	Writing level pre-intervention	Writing level post-intervention	Writing level Follow up
Group One	1.15	1.21	1.4
Group Two	1.14	1.43	1.70

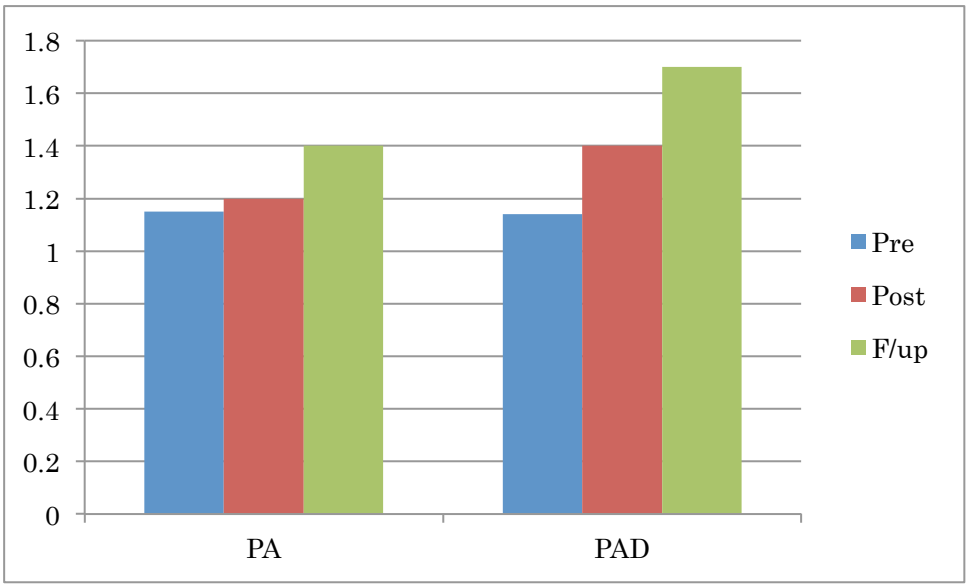


Figure 7.1 Mean asTTle timed writing sample results by group.

Table 7.1 and Figure 7.1 show the timed writing sample levels provided by the teachers. Given that all participants had been at school for close to two years at a minimum, this indicates that at pre intervention testing, they were all below or well below the expected levels, in relation to New Zealand National Standards (Ministry of Education, 2009).

Pre intervention results show that both groups were closely matched on writing ability, with just 0.01 between the mean levels for each group.

The interventions took place over eight out of ten weeks of a standard school term, thus teachers, at the start of the next school term, carried out another timed writing sample. These results are represented as the post intervention data. Both groups made some progress based

on this writing information, with Group Two making slightly better progress than Group One. Group One made enough progress for the mean result to move one level, based on the asTTle marking matrix (Ministry of Education, 2011). Group Two moved their mean score from 1.14 (which equates to within the first curriculum level and sub level) to 1.43, which indicates a movement of just over two (sub)levels, (1.2 and 1.3), but not quite in to the next level which would be indicated by a 2.1 result.

At follow up, the mean score for Group One indicates a move to just beyond the next level (1.3), with a mean of 1.4. Group Two continued to improve, but not enough to move to the next curriculum level.

While this looks positive, given that they were all behind where they were expected to be, and the mean scores indicate improvements, asTTle is not standardized and is subject to subjectivity in the marking system, even with moderation by other teachers within and from outside the school. Looking at the data as it is, it would suggest that Group Two (Phonemic Awareness and Dialectal Awareness group) did make better gains than Group One (Phonemic Awareness only group). This type of timed test is considered to be a 'snapshot' of a child's writing ability.

7.5.2 Whole Text Prose Reading Results. The reading results for this study were initially gathered from the classroom teachers and literacy specialist, prior to the beginning of the eight weeks of interventions, as results of their Running Records of Oral Reading (Clay, 1993), to enable the initial choosing of possible participants. The Running Record of Oral Reading, as discussed in Chapters Two and Four, is underpinned by constructivist theories of reading and are not scientifically robust forms of assessment. Because of this and the different levels of the children involved, it was decided that through analysing their Running Records of Oral Reading and recording the number of words read correctly out of 100, a more accurate measure of improvement would be possible. After the eight weeks of

intervention, each child was given the original piece of prose to read. Three months subsequent to the completion of the interventions the same reading assessment was carried out the using the same piece of prose with each participant, to track possible progress and/or sustaining of improvement.

Mean results for each of the groups, at each of the testing sessions are indicated by the accuracy rates as determined by my analysis. Numbers indicated are as a score out of 100 words read. These are displayed in Table and Figure 7.2 below.

Table 7.2 Mean reading accuracy data by group.

Group	**Reading pre intervention**	**Reading post intervention**	**Reading at follow up**
Group One	81.36	88.54	98.54
Group Two	81.08	89.08	98.83

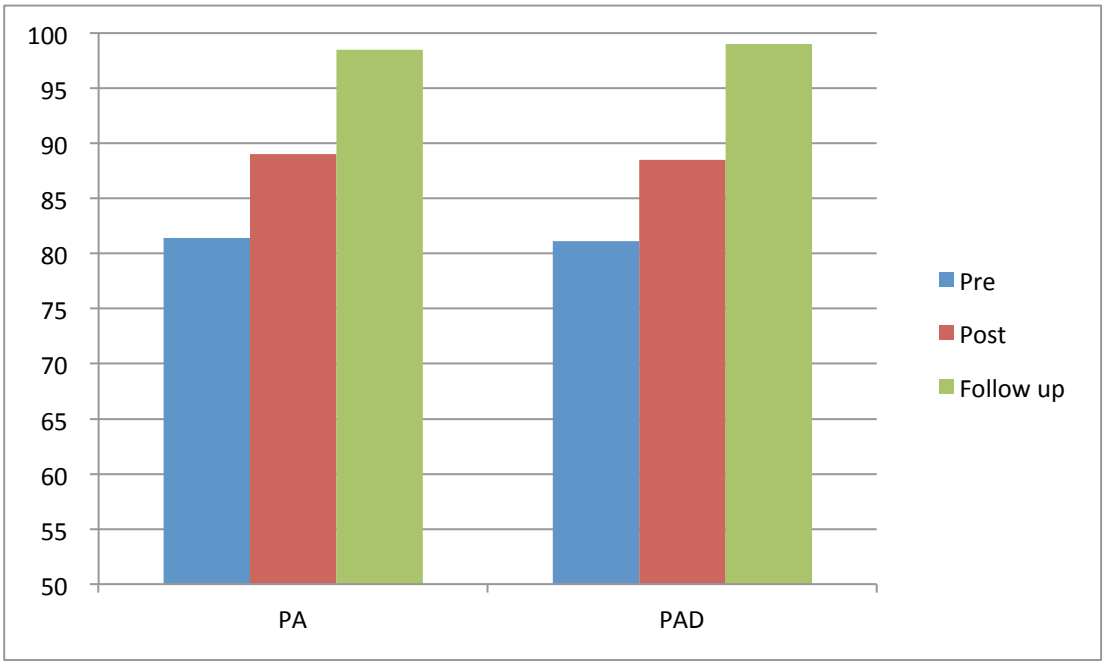


Figure 7.2 Mean reading accuracy data by group.

By looking at this table and figure, it is possible to see that pre testing results showed both groups were very closely matched on whole text reading, with Group Two having 0.3%

more errors than Group One. At post testing the Group Two had 0.5% less errors than Group One, with 89% accuracy on a 100 word prose test. A three month follow up showed that both groups had sustained an increase, with both improving by 10%. This indicates that Group Two made slightly better gains over the entire period.

While the progress does look encouraging, it must be noted that they were reading the same sample of text for each testing. By the time the follow up tests were carried out, there was a time interval of five to five and a half months, and despite the contention that they were below where they should be in comparison to their peers and the expectations of the New Zealand Curriculum (Ministry of Education, 2009), there would be an expectation, by their classroom teachers and the literacy expert, that they would have made some improvement during this time, without any intervention in place. The implications of this are discussed in the discussion section of this chapter.

7.5.3 Phonemic Awareness Measure. Given that part of the aim of this study was to ascertain the effectiveness of the interventions, with phonologically matched groups, the initial data for the phonemic awareness testing indicates that both the Phonemic Awareness and the Phonemic Awareness and Dialectal Awareness groups were very closely matched. Scores represent the number of items correct out of a possible 42.

The Phonemic Awareness group having a slightly higher average score of 18.6/42 compared to the Phonemic Awareness and Dialectal Awareness group, which was 18/42. The range for the two groups was also closely matched, with the range for the Phonemic Awareness group being from zero to 33, and the range for the Phonemic Awareness and Dialectal Awareness group being zero to 31. The same test was administered at the end of the intervention phase, but was not able to be repeated at the follow up testing session. Table 7.3 shows the mean pre and post intervention scores per group.

Table 7.3 Phonemic wareness mean pre and post intervention results per group.

Group	Phonemic awareness pre test	Phonemic awareness post test
Group One	18.6	24.5
Group Two	18	24.3

Post testing revealed that Group Two had made a marginally bigger mean gain, moving to 24.3 out of 42, than Group One, who moved to 24.5 out of 42, having started 0.6 ahead. The ranges moved to three to 41 for Group One and five to 39 for Group Two.

Figure 7.3 illustrates these improvements.

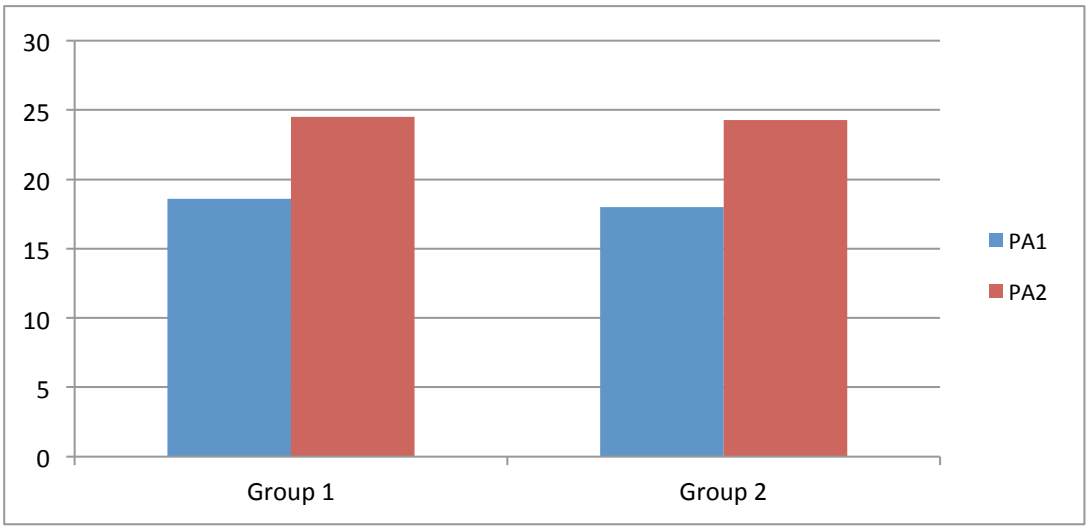


Figure 7.3 Phonemic awareness mean pre and post intervention results per group.

Mean results for each of the six subsections of the phonemic awareness test were recorded separately, to illustrate the competency of the participants in the six different tasks. Table 7.4 displays these results .

Table 7.4 Mean Phonemic awareness sub-test results by group.

Group	Blend 1	Blend 2	Seg 1	Seg 2	Del. first 1	Del. first 2	Del. last 1	Del. last 2	Sub first 1	Sub first 2	Sub last 1	Sub last 2
Group One	3.7	5.4	4.8	5.5	3.4	4.5	3.5	4.3	2.1	3.1	1.2	1.9
Group Two	2.3	5.9	3.8	5.6	3.5	4.6	3.2	4	1.8	2.6	1.4	1.8

Group One participants, having received twice as much direct instruction in phonemic awareness, made more progress than the Group Two on the substitution of first and last phoneme tasks when you compare the pre and post intervention averages. Figure 7.4 illustrates these differences.

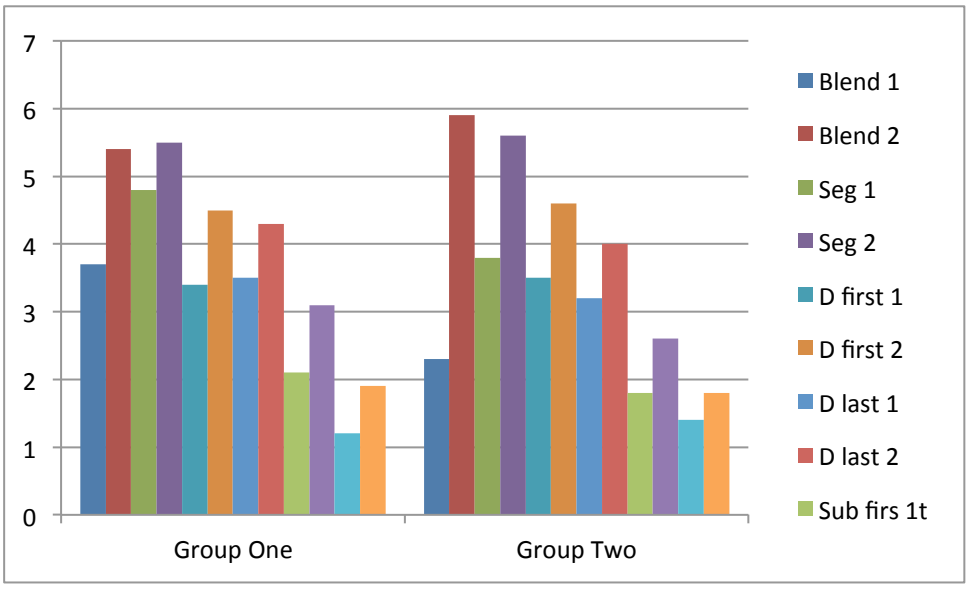


Figure 7.4 Phonemic awareness tasks pre and post intervention by mean number of items correct per group.

Figure 7.4 indicates the differences in the two groups. Group One were stronger in blending, segmenting, deletion of last phoneme, and substitution of first phoneme at pre

testing, but at post testing, the Group One were strongest only in deletion of last phoneme, substitution of first phoneme and substitution of last phoneme. Group Two made better improvements than Group One, thus at post testing were better at blending and segmenting and continued to be better at deletion of first phoneme, while slightly losing ground on the substitution of final phoneme, although they did improve. The relevance, if any with relation to the different intervention programmes will be discussed in the discussion section of this chapter.

7.5.4 Dialect Sensitive Spelling Test. The specifically designed spelling test was administered to all participants in a group situation. Originally, when assessing the spelling test, each item was marked as either correct or incorrect, as in a classroom situation, and as in the previous two studies, where a standardized spelling age test was administered. The results for the pre and post intervention testing, using this marking system are shown in Table 7.9.

Table 7.5 Mean pre and post intervention spelling results by items correct per group.

Group	**Pre intervention**	**Post intervention**
Group One	6.1	8.72
Group Two	6.5	8.9

The results show that both groups were closely matched on spelling ability at both pre and post intervention testing, when marking by an entirely correct or incorrect basis. Figure 7.5 illustrates the mean scores for each group.

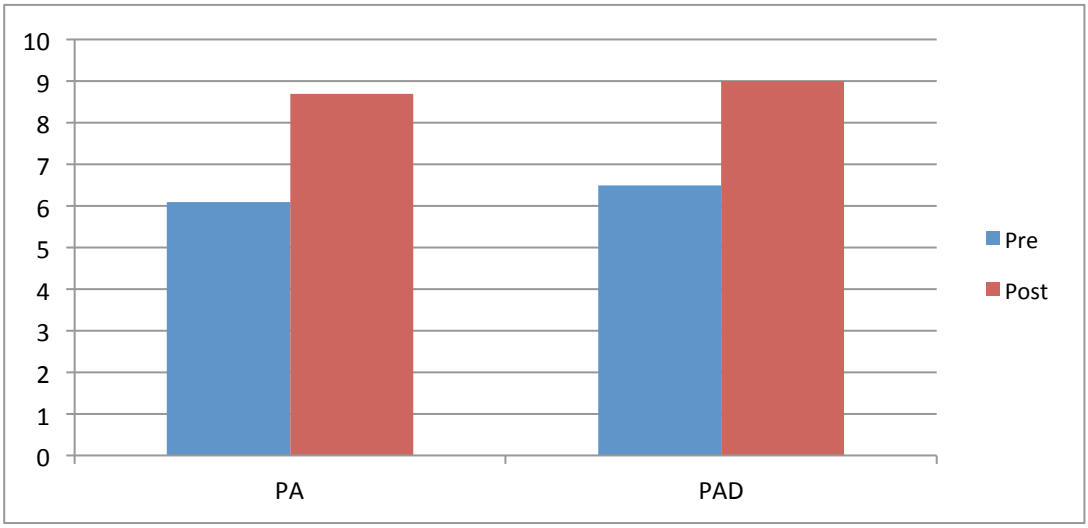


Figure 7.5 Mean spelling results pre and post intervention for both groups.

Using this method, Group One had a mean gain of 2.6 words correct. Whilst Group Two had a mean gain of 2.5 words correct. However, this data does not inform the purpose of having a dialect sensitive spelling measure. For example, if the target words was *with,* with the dialect sensitive part of the words being */th/,* then marking the word spelt as *weth* incorrect, does not indicate whether the participant is having their spelling affected by their dialect or not.

Therefore, consistent with the research of Terry & Conner (2010), Pearson et al. (2009), and Seymour et al. (2005), the tests were subsequently marked by attending only to the dialect sensitive or target area of the word. These target or dialect sensitive areas of the words are highlighted on figure 7.1 in the method section of this chapter. Thus, if the word *with* was spelt *weth* the participant would receive one point for the correct spelling of the target dialect sensitive area /*th*/. If however it was spelt *wif* or *wiph* there would be no point credited. Table 7.6 below, shows the mean results by group, using the dialect sensitive marking system.

Table 7.6 Mean dialect sensitive spelling pattern results by group.

Group	**Spelling 1**	**Spelling 2**
Group One	12.27	17.45
Group Two	11.75	17.91

The mean scores for each group, for each test are displayed in Figure 7.6 below.

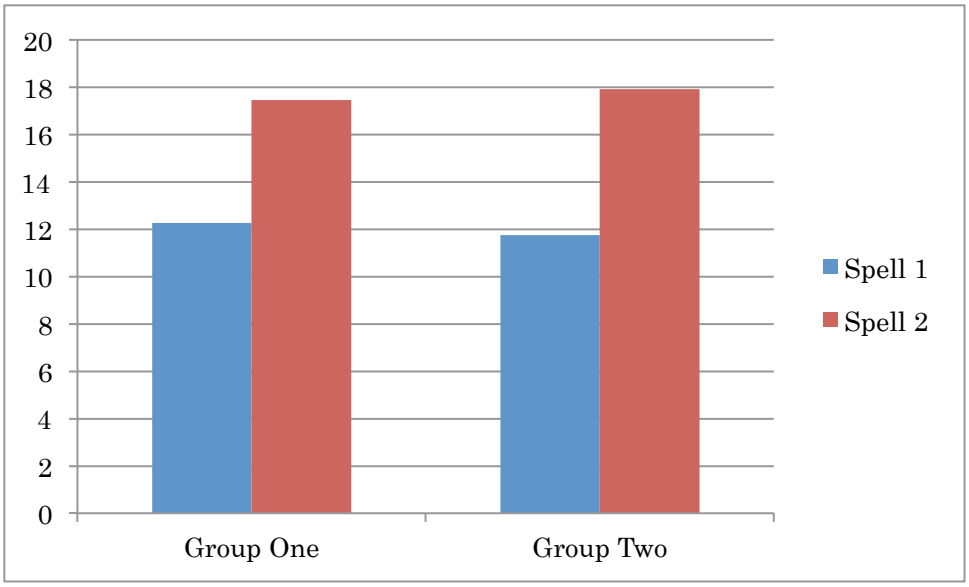


Figure 7.6 Mean dialect sensitive spelling pattern results by group.

Group One started with a mean of 12.27 correct spelling patterns and at post intervention testing had an average of 17.45 correct spelling patterns. This was an increase of 5.18 correct spellings. Group Two started with less correct spellings, at 11.75, and increased at post intervention testing to 17.91 correct spellings. This was an increase of 6.16 correct spellings, an increase of 0.8 more correct spelling patterns than Group One. Whilst this does show a very slightly better achievement for Group Two, it may be pertinent to also analyse which particular spelling patterns, if any, were more sensitive to either of the intervention programmes. Therefore results were broken down to each dialect sensitive sound/pattern.

From the 33 dialect sensitive patterns assessed, some were assessed a number of times, within different words. Overall, through combining the data for the double ups in sound patterns, there was a total of 17 patterns or differences assessed. The results for these are displayed for the initial pre intervention testing for both groups, in Table 7.7.

Table 7.7 Dialect sensitive spelling pattern errors from pre intervention testing.

Dialect difference	**PA Group Pre**	**PAD Group Pre**
velarised L loss	19	22
omitted T	4	2
Th fronting	28	29
Substituting g/k	9	6
omitted D	4	5
Retroflexed r (j/dr)	6	2
Substituting sh/ch	6	5
Devoiced Z	7	1
Omitted g in/ing	2	3
Substituted t/th	0	0
Substituted p/th	2	2
Substituted ch/tr	8	3
Omitted final S	3	1
Substituted d/th	3	2
Omitted N	5	6
Substituting s/z/ for /th/	0	4
Omitted th	1	0
New/use	5	6
Aks/ask	5	4

As with previous testing measures with these two groups of participants, the results were fairly evenly matched. Group One did have more errors, with 107 as compared to Group Two which had 93 errors or differences in total. The table illustrates that of the differences recorded the largest were for Group One, who displayed five more instances of writing the

/tr/ sound as /ch/ (the word in the test was *truck*). Of note, they also had six more instances of transferring the devoicing of the final /z/ in to their spelling. The word in the test was *eyes,* which was subsequently written as either *ice* or *ise.*

At post intervention testing, many of these had been resolved, as can be seen in Table 7.8 which shows the results alongside the pre intervention results, with highlighted numbers where significant changes were made.

Table7.8 Pre and post intervention results for dialect sensitive spelling patterns by Group.

Dialect difference	**Group One Pre**	**Group One Post**	**Group Two Pre**	**Group Two Post**
veralised L loss	19	10	22	12
omitted T	4	4	2	3
Th fronting	28	19	29	16
Substituting g/k	9	2	6	1
omitted D	4	5	5	4
Retroflexed r (j/dr)	6	4	2	1
Substituting sh/ch	6	1	5	0
Devoiced Z	7	0	1	0
Omitted g in/ing	2	2	3	0
Substituted t/th	0	0	0	1
Substituted p/th	2	2	2	0
Substituted ch/tr	8	4	3	1
Omitted final S	3	1	1	0
Substituted d/th	3	0	2	0
Omitted N	5	7	6	9
Substituting s/z/ for /th/	0	0	4	2
Omitted th	1	1	0	0
Aks for ask	5	5	6	6
News for used	5	5	4	4
Total	107	62	93	50

Overall, the improvements were very close between the two groups. The Phonemic Awareness group made 45 improvements and the Phonemic Awareness and Dialectal Awareness group made 43 improvements. By looking at the highlighted numbers, it shows that the Phonemic Awareness group made improvements in eight different dialect sensitive spelling patterns, while the Phonemic Awareness and Dialectal Awareness group made improvements in 13 different dialect sensitive spelling patterns. Both groups made the biggest number of changes in the velarised L sound (the target word was *fell,* which may have been represented typically as *fow* or *faw* in the pre-test) The /th/ fronting problems, which were the largest number of differences for both groups at both pre and post intervention testing, were however, greatly improved by both groups at post testing. The devoicing of the final /z/ was completely resolved for both groups at post intervention testing.

Of interest, is the red highlighted numbers. These show where increases in incidence of dialect sensitive errors were noted at post testing. The only common increase between the two groups was in the omission of the /n/ sound. In the target words *find* and *pond,* the target sound was actually the omission of the final /d/, but record was kept of this difference as it was unexpected, particularly given that it increased for both groups at post testing. Further discussion and possible implication of these results are in the discussion section of this chapter.

7.5.5 Oral Dialect Density Sentence Repetition Test. This specifically designed dialect difference oral repetition test comprised of a possible expected differences being 28. Pre testing indicated less differences/errors by the Phonemic Awareness and Dialectal Awareness group with 23.66/28 while the Phonemic Awareness group had an average of 24.18/28. Table 7.9 shows the pre intervention and post intervention differences for each group of participants.

Table 7.9 Mean dialect density scores for both groups.

Group	**Dialect pre intervention**	**Dialect post intervention**
Group One	24.18	21.63
Group Two	23.66	20.66

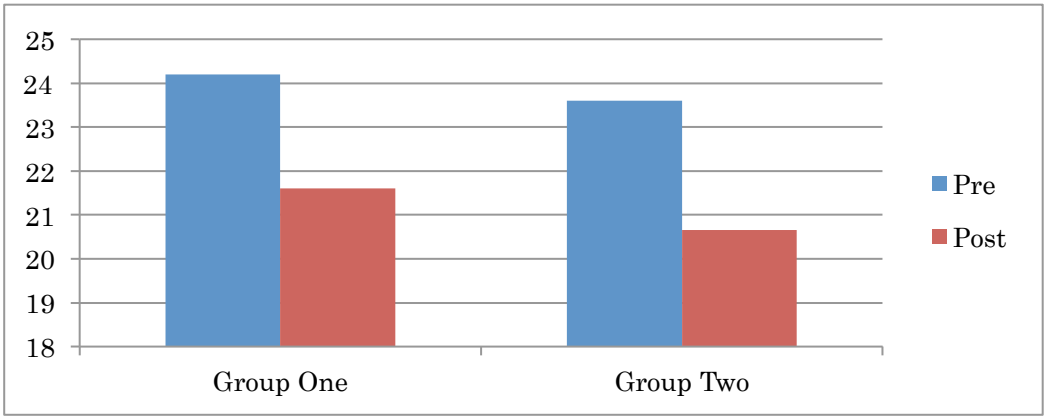


Figure 7.7 Mean dialect density scores for both groups, pre and post intervention.

As the figure and table demonstrates, Group One recorded a mean of 2.55 reductions in the number of dialect difference errors, and Group Two made three less dialect difference errors. This difference shows a slightly better outcome for Group Two.

As with the dialect sensitive spelling test, these results can be reported on in more detail by looking at the types of dialect difference or characteristic errors made by each group, both before and after their interventions. Table 7.10 shows the differences noted in pre-testing for both groups

Table 7.10 Recorded oral dialect characteristics for both groups at pre-testing.

Dialect characteristc type	**Group One pre test**	**Group Two pre test**
Substituting p/th	1	1
Substituting f/th	30	20
Substituting d/th	15	18
Substituting n/th	7	5
Substituting t/th	1	2
Substituting v/th	9	10
omitted T	64	82
omitted K	7	3
omitted G	14	22
omitted D	27	31
omitted H	9	14
Substituting new/u	3	3
Substituting u/new	5	4
Gonna for going to	6	6
Substituting ak/ask	9	4
Substituting k/g	7	6
Devoicing final /Z/	8	6
Omitted Initial vowel diagraph Au	9	12
Substituting ma/my	1	0
Lefted (adding ed)	1	2
Usedo (run on)	2	0
Total	235	251

While Group Two did have 16 more oral dialect differences in total, it does show that they had a much larger number of omissions of final consonant /t/ than Group One, but that they did also have a very similar number of instances of the /th/ fronting, substituting /th/for /f/, /v/ or /d/. In this particular oral sentence repetition task, the most common dialect characteristic for both groups were the Substituting f/th

Substituting d/th, omitted T, omitted G omitted D, omitted H and Omitted Initial vowel

diagraph *au* (Target word was *Australia*, predicted and received word was *stralia*).

After eight weeks of their separate intervention programmes, the groups recorded the following dialect characteristics. These are displayed with the initial errors for both groups, to enable a direct comparison in table 7.11 below.

Table 7.11 Oral dialect characteristics pre and post- test for both groups.

Dialect characteristic type	**Group One pre test**	**GroupOne post test**	**Group Two pre test**	**GroupTwo post test**
Substituting p/th	1	1	1	0
Substituting f/th	30	22	20	9
Substituting d/th	15	9	18	9
Substituting n/th	7	6	5	1
Substituting t/th	1	0	2	0
Substituting v/th	9	9	10	8
omitted T	64	51	82	60
omitted K	7	7	3	3
omitted G	14	11	22	16
omitted D	27	23	31	19
omitted H	9	6	14	13
Substituting new/u	3	3	3	2
Substituting u/new	5	4	4	4
Gonna for going to	6	6	6	5
Substituting ak/ask	9	9	4	4
Substituting k/g	7	6	6	6
Devoicing final /Z/	8	7	6	6
Omitted Initial vowel diagraph /Au/	9	7	12	9
Substituting ma/my	1	0	0	0
Lefted (adding ed)	1	0	2	0
Usedo (run on)	2	1	0	0
Total	235	188	251	174

The yellow highlighted number indicates those dialect differences that were reduced post the eight weeks of interventions. Group Two had the largest reduction in oral dialect characteristics, reducing the instances by a total of 77, while Group One reduced their characteristics by a total of 47 differences. There were no instances of increases in any given type of dialect characteristic, although Group One had six characteristic that remained the same;

i. Substituting p/th
ii. Substituting v/th
iii. Omitted final consonant K
iv. Substituting new/u (Target word *used* recorded word *newsd*)
v. Substituting *Gonna* for *going to*
vi. Substituting ak/ask

Group Two had five dialect characteristcs that remained the same;

i. Omitted final consonant K
ii. Substituting u/new (unexpected outcome, *new* was not a target word)
iii. Substituting ak/ask
iv. Substituting k/g
v. Devoicing final /Z/

This shows that common areas or dialect characteristics that were unable to be changed within both groups were;

i. Omitted final consonant K and
ii. Substituting ak/ask

These findings will be discussed in the discussion section of this chapter.

As with the previous two studies, the main aim of this study was not to alter the participant's speech, but to facilitate improved outcomes in literacy skills. However, it is interesting to note the comparison between dialect characteristics noted in the spelling test and in the oral sentence repetition task. Common characteristics noted from the two separate tasks are displayed in Table 7.12.

Table 7.12 Common dialect characteristics and their occurrences from oral and written tests for both groups, pre and post intervention.

Dialect difference error type	**Group One pre oral**	**Group One pre spell**	**Group One post oral**	**Group One post spell**	**Group Two pre oral**	**Group Two pre spell**	**Group Two post oral**	**Group Two post spell**
Substituting p/th	1	2	1	2	1	2	0	0
Substituting f/th	30	28	22	19	20	29	9	16
Substituting d/th	15	3	9	0	18	2	9	0
Substituting n/th	7	0	6	0	5	0	1	0
Substituting t/th	1	0	0	0	2	0	0	1
Substituting v/th	9	0	9	0	10	0	8	0
omitted T	64	4	51	4	82	2	60	3
omitted K	7		7		3		3	
omitted G	14	2	11	2	22	3	16	0
omitted D	27	4	23	5	31	5	19	4
omitted H	9		6		14		13	
Substituting new/u	3	5	3	5	3	6	2	6
Substituting u/new	5		4		4		4	
Gonna for going to	6		6		6		5	
Substituting ak/ask	9	5	9	5	4	4	4	4
Substituting k/g	7	9	6	2	6	6	6	1
Devoicing final /Z/	8	7	7	0	6	1	6	0

Highlighted features are those that were not tested in the spelling test. The importance of this issue will be discussed in the discussion and conclusion sections of this chapter. The table does show that transfer from oral language dialect characteristics to written language dialect characteristics are most prevalent with;

i. /th/ fronting with /f/
ii. /th/ fronting with /d/
iii. Omitted final consonant /t/
iv. Omitted final consonant /d/
v. Omitted final consonannt /g/
vi. devoicing of final consonant /z/
vii. substituting /k/ for /g/ as a final consonant
viii. substituting ak/ask
ix. substituting new for use

7.5.6 Statistical analyses. In order to assess differences in improvements between pre- and post-intervention scores across the two intervention groups, a series of analyses of variance were performed, one for each of the measures in the study. These contrasted the performance of the two groups (between subjects factor) on the pre- and post-intervention scores (a repeated measures factor), producing a 2x2 mixed analysis of variance for each measure. The interaction effect within each analysis, therefore, determines whether any improvement between pre- and post-intervention scores for Group One, Phonemic Awareness only differed from that related to Group Two, Phonemic Awareness and Dialectal Awareness.

Two measures were derived from the spelling task. For the basic number of items correct measures, although there was a significant effect of time ($F_{(1,21)} = 25.76$, $p < .001$) indicating

improvements between pre- and post-intervention scores, there was no evidence of an interaction effect ($F_{(1,21)} < 1$, $p = .83$). The same was true for the more dialectal sensitive spelling measure: a significant effect of time ($F_{(1,21)} = 132$, $p < .001$) but a non-significant interaction with group ($F_{(1,21)} < 1$, $p = .33$). These results suggest that there was no evidence for differential improvement in spelling scores between the two groups.

For the reading measure in the study, again there was a significant effect of time ($F_{(1,21)} = 310$, $p < .001$), indicating improvements between pre- and post-intervention scores, but not a statistically significant interaction effect ($F_{(1,21)} = 2.32$, $p = .14$). The same results were apparent for the Phonemic Awareness measure: a significant effect of time ($F_{(1,21)} = 213$, $p < .001$), but a non-significant interaction ($F_{(1,21)} < 1$, $p = .55$). And for the Dialect Differences assessment: a significant effect of time ($F_{(1,21)} = 38.32$, $p < .001$), but a non-significant interaction effect ($F_{(1,21)} < 1$, $p = .62$). As with the spelling measures, these results present no evidence for differential improvement in scores between the two groups.

The contrast was the analysis of asTTle timed writing sample scores. This analysis produced a significant effect of time ($F_{(1,21)} = 9.40$, $p = .006$) and an interaction effect ($F_{(1,21)} = 4.41$, $p = .048$). This interaction can be seen in figure 7.8 and suggests greater improvement in writing scores for the Phonemic Awareness and Dialectal Awareness group. Although this is only one differential effect across the measures, it does indicate that further work on such a combination of awareness training may be warranted in the future.

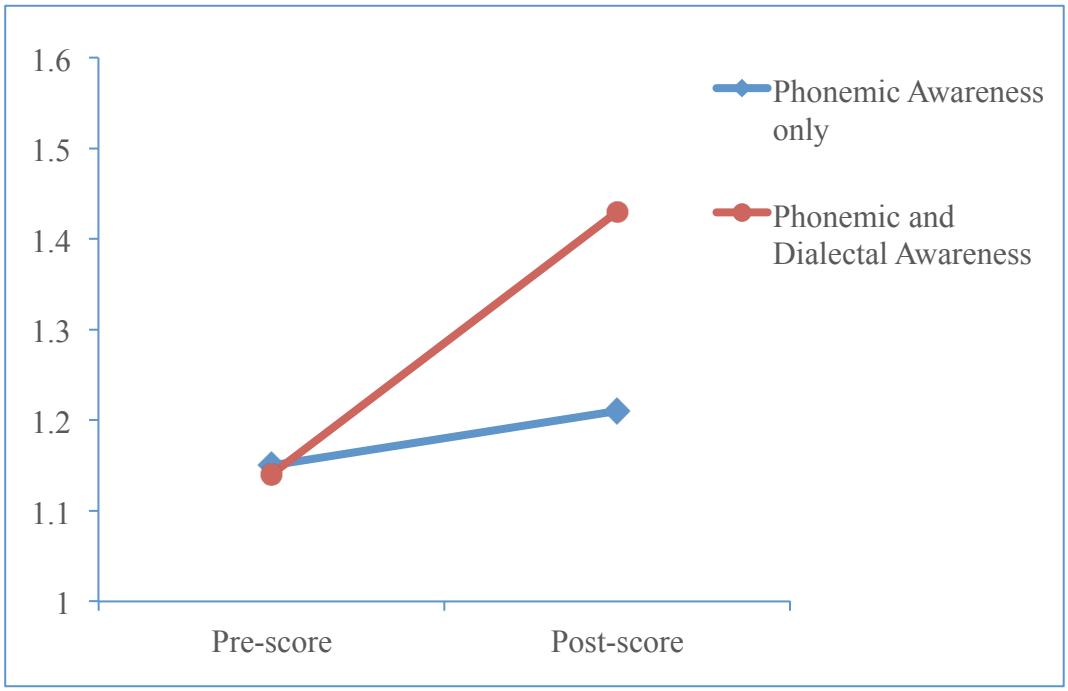


Figure 7.8 Mean asTTle writing scores for both groups, pre and post intervention.

7.5.7 Results by Ethnicity. While both groups were evenly matched in range and mean scores for phonemic awareness, the following three graphs show some distinct differences when broken in to ethnic groupings within each intervention group. Group Two retained four participants in each ethnic group throughout the study, but Group One lost one participant from their Pasifika group, leaving them with three Pasifika participants in total.

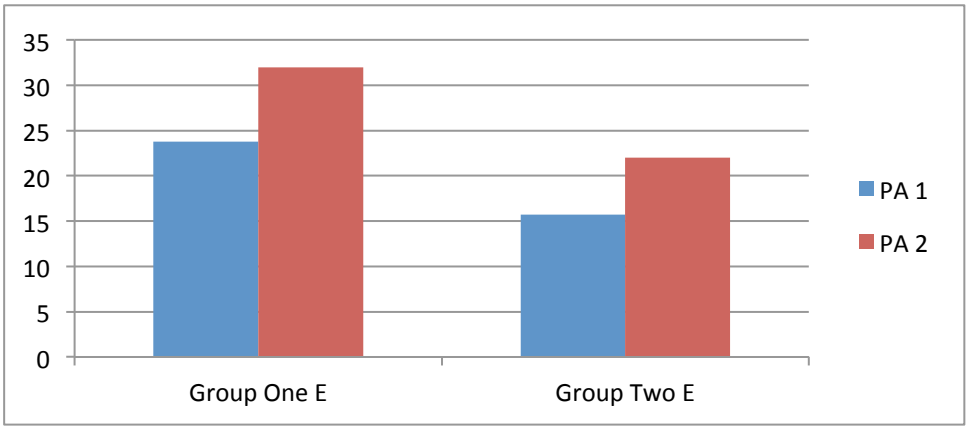


Figure 7.9 Mean phonemic awareness scores for European participants by group.

Figure 7.9 shows that the European participants in Group One started at a higher level than those in group two, and made slightly better progress, increasing their mean score by 8.25 correct items. Group Two European participants improved their mean score by 6.25 correct items.

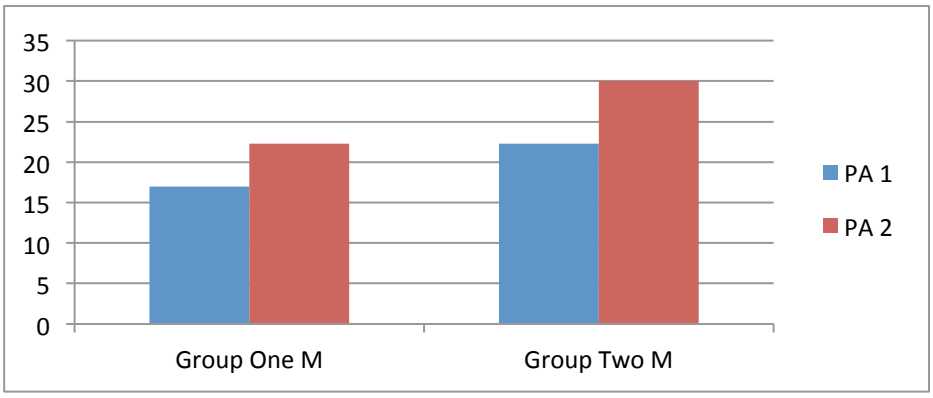


Figure 7.10 Mean Phonemic Awareness scores for New Zealand Māori participants by group.

Figure 7.10 shows that the New Zealand Māori Participants in Group One started below the New Zealand Māori participants in Group Two, also below the New Zealand European participants in their group. They started at a similar level to the New Zealand European participants in Group Two. They did not progress as well as the New Zealand European participants in Group One either, increasing their mean score by 5.25 correct items. New Zealand Māori participants in Group Two improved their mean score by 7.75 correct items.

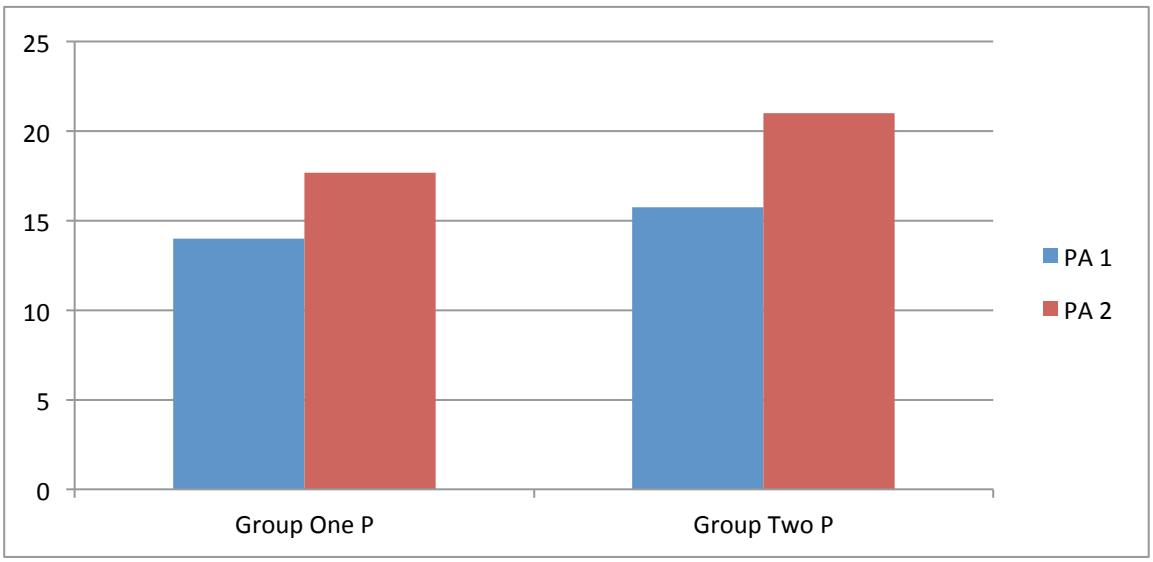


Figure 7.11 Mean phonemic awareness scores for Pasifika participants by group.

Figure 7.11 shows the results for the Pasifika participants. Group One participants started with the lowest mean of any of the ethnic groups within the two intervention groups and also made the least progress, improving their mean by 3.66 correct items.

Group Two Pasifika participants started with the same mean as the New Zealand European participants in their group and made similar progress, increasing their mean score by 6.25 correct items.

As with the analysis of the spelling in section 7.5.4 of these results, results by ethnicity will be reported on using the dialect sensitive results as opposed to the correct/incorrect method originally used.

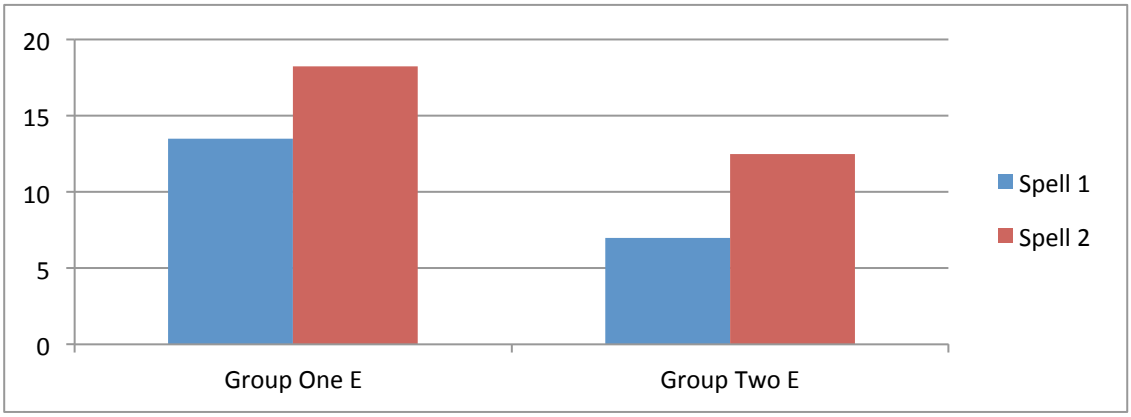


Figure 7.12 Mean dialect sensitive spelling scores for European participants by group.

In Figure 7.12, the difference between the mean spelling results for New Zealand European participants in the two treatment groups is clear. The participants in Group One had a mean score that was 6.5 higher than those in group Two. Group One participants improved their mean by 5.25 while Group Two participants improved their mean by 5.5, which indicates a slightly higher improvement for the New Zealand European participants in Group Two.

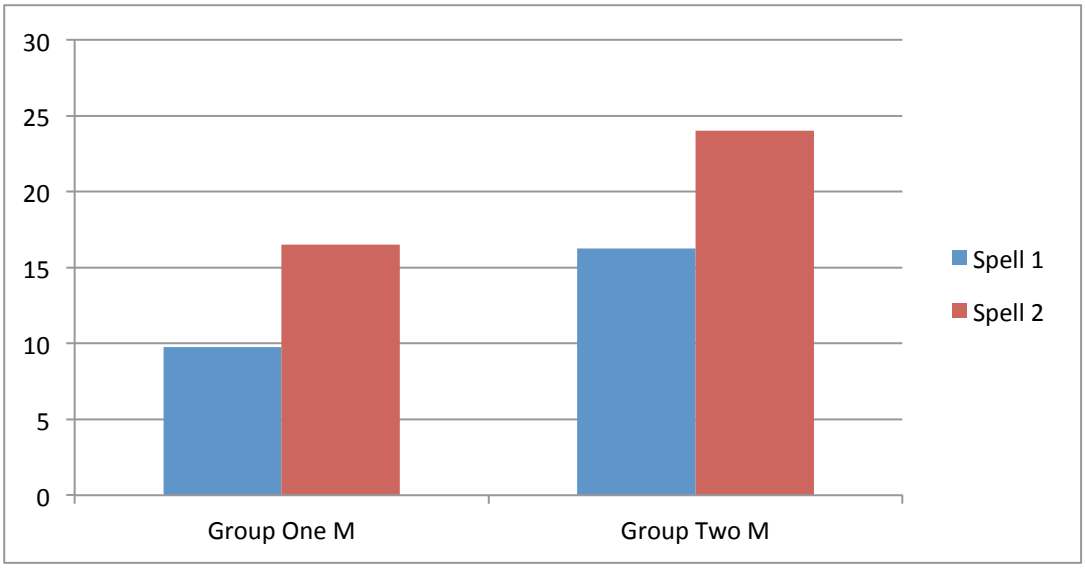


Figure 7.13 Mean dialect sensitive spelling scores for New Zealand Māori participants by group.

Figure 7.13 shows that as with the phonemic awareness results, the New Zealand Māori participants in Group One had a lower mean spelling score than those in Group Two. Progress was also similar to the phonemic awareness results for New Zealand Māori participants, with those in Group One improving their mean score by 6.75 and those in Group Two by 7.75.

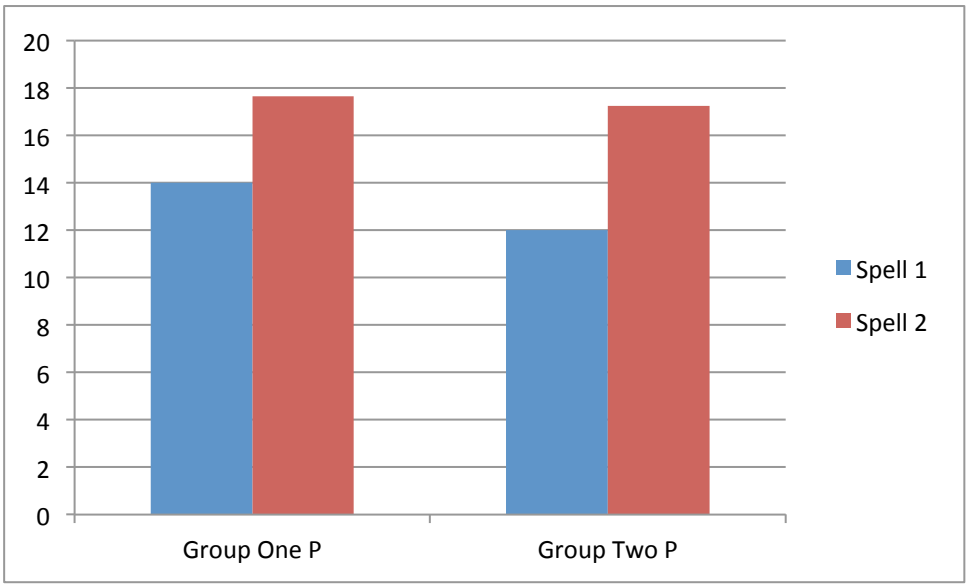


Figure 7.14 Mean dialect sensitive spelling scores for Pasifika participants by group.

Figure 7.14 is interesting in that it shows that the Pasifika participants in Group One had a higher mean spelling score than those in Group Two at the start of the study, despite having had lower score on the phonemic swareness. Pasifika participants in Group Two made better progress than those in Group One, finishing the study on 17.25 while those in Group One had a mean score of 17.66.

Reading results are represented by a score out of 100 words, of a prose text read on three occasions.

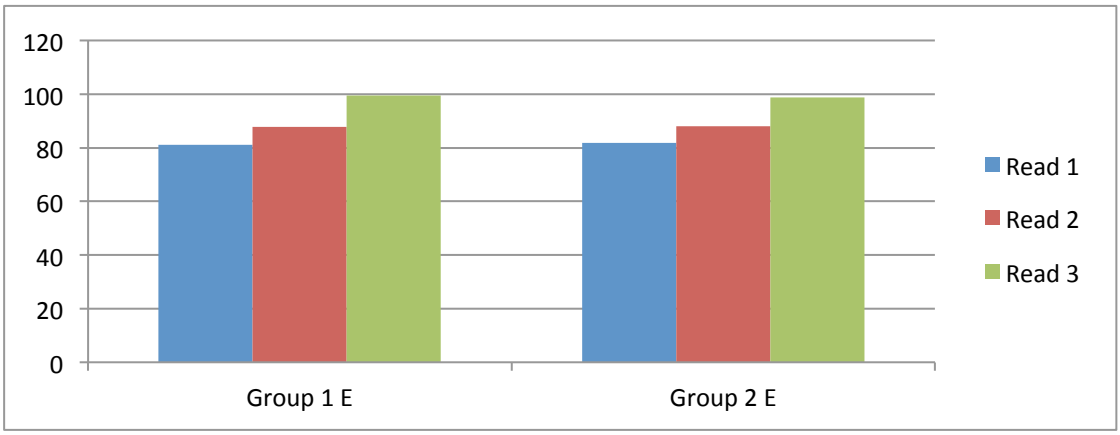


Figure 7.15 Mean reading scores for European participants by group.

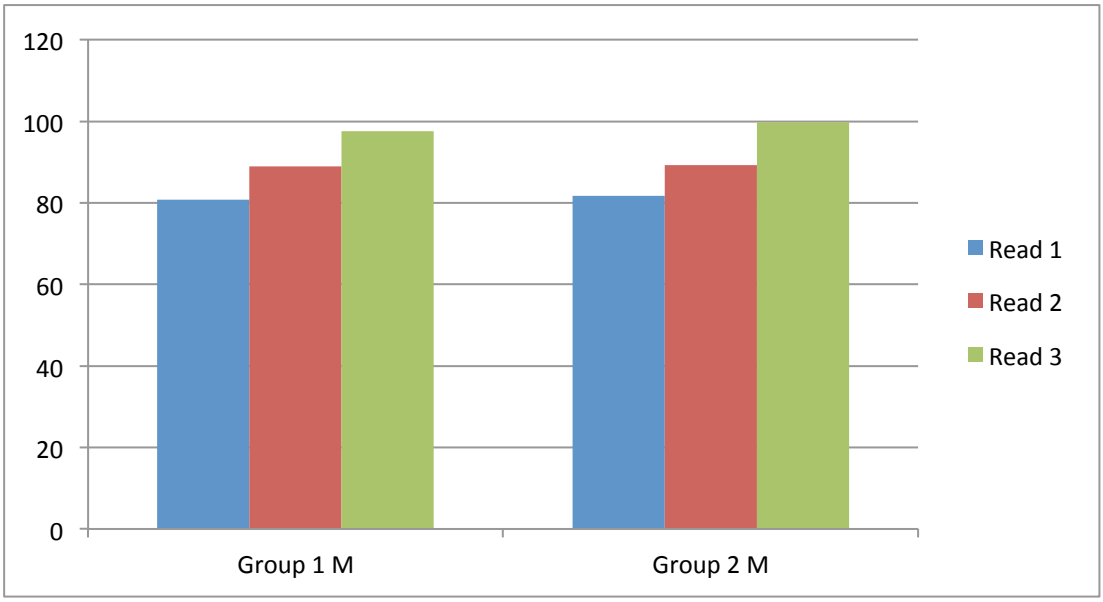


Figure 7.16 Mean reading scores for New Zealand Māori participants by group.

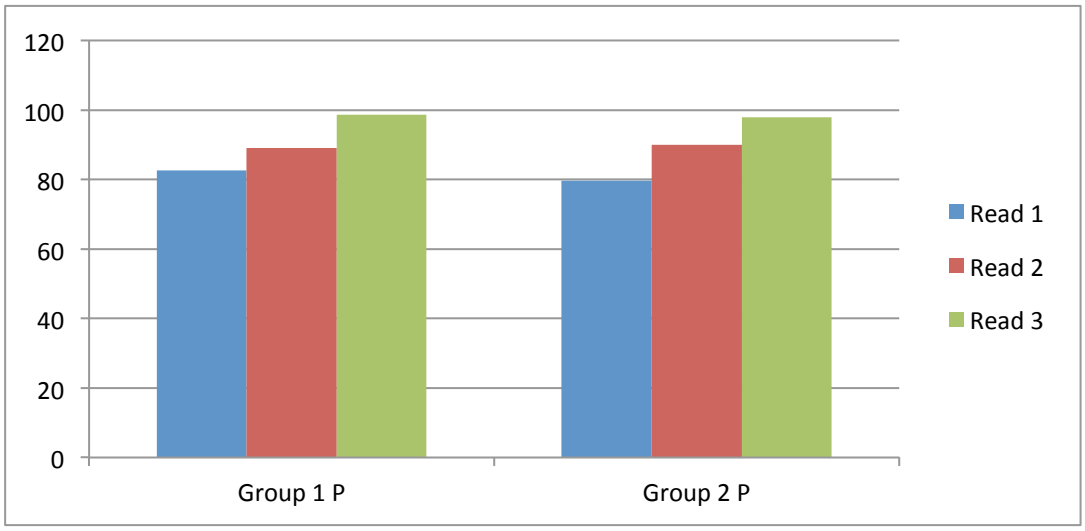


Figure 7.17 Mean reading scores for Pasifika participants by group.

As can be seen in figures 7.15-17 above, the results are very close for prose reading. In Group One, the European participants improved slightly more that the New Zealand Māori and Pasifika participants, moving up a mean of 18.5 correct words read. New Zealand Māori improved their mean score by 16.75 correct words while Pasifika participants improved by 16 correct words. In Group Two, Pasifika participants showed the biggest improvement moving up by 18.25 correct words and New Zealand Māori participant improved by 18 correct words. New Zealand European participants performed less well, improving by 17 words. The differences are very slight overall, between groups and ethnicities.

Dialect density based on the scores from the Dialect Density Oral Sentence Repetition task are presented, based on ethnicity, and by group.

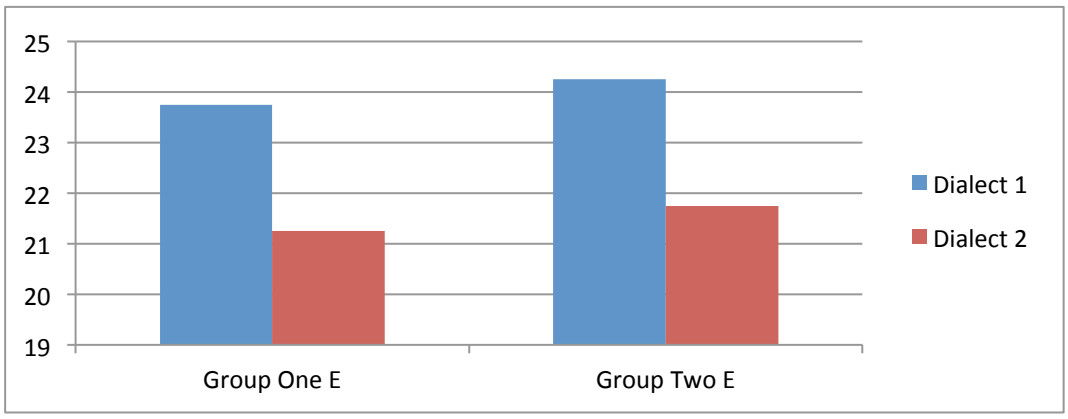


Figure 7.18 Mean oral dialect density scores for European participants by group.

Figure 7.18 shows that the mean dialect density scores for New Zealand European participants, was quite similar over groups One and Two. Group One participants started with a mean of 23.75 differences and finished with 21.25. Group Two participants started with a mean of 24.25 and finished with a mean of 21.75. Hence, both groups reduced the mean number of dialect difference errors by 2.5.

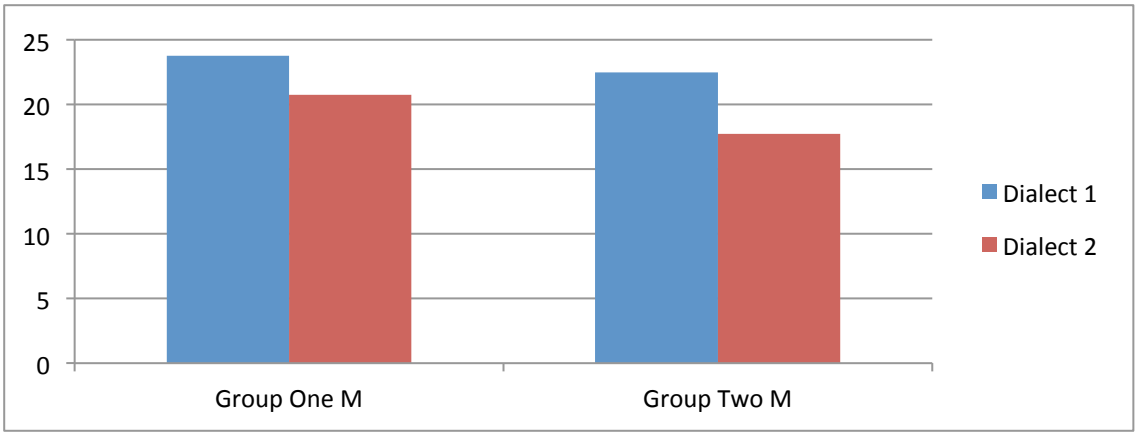


Figure 7.19 Mean oral dialect density scores for New Zealand Māori participants by group.

Figure 7.19 shows that the New Zealand Māori participants in Group One started with a slightly higher dialect density (23.75) than those in Group Two, who had a mean score of

22.5. Group One participants reduced their mean dialect density by 3, to finish on 20.75, while the Group Two participants reduced their mean dialect density by 4.75, to finish the study on 17.75.

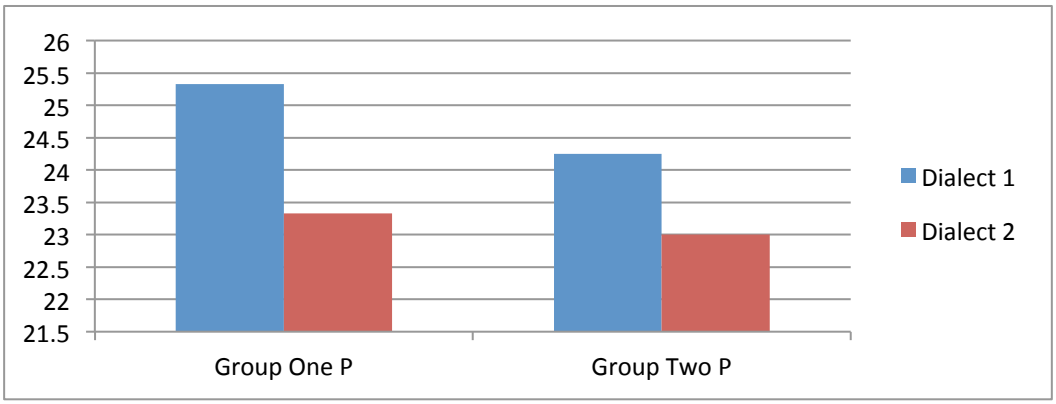


Figure 7.20 Mean oral dialect density scores for Pasifika participants by group.

As can be seen in figure 7.20, Pasifika participants in Group One started the study recording the highest dialect density mean than any other ethnicity. Pasifika participants in Group Two, started with the same mean score as the New Zealand European participants in Group Two. Having started at exactly the same mean, the Group Two Pasifika participants reduced their mean number of errors by 1.25, to finish on 23, which was not as much as the New Zealand European participants in their group. Group One Pasifika participants reduced their mean dialect density by 2. Moving from 25.33 to 23.33 errors, which still left them with the highest mean, of all the ethnicities.

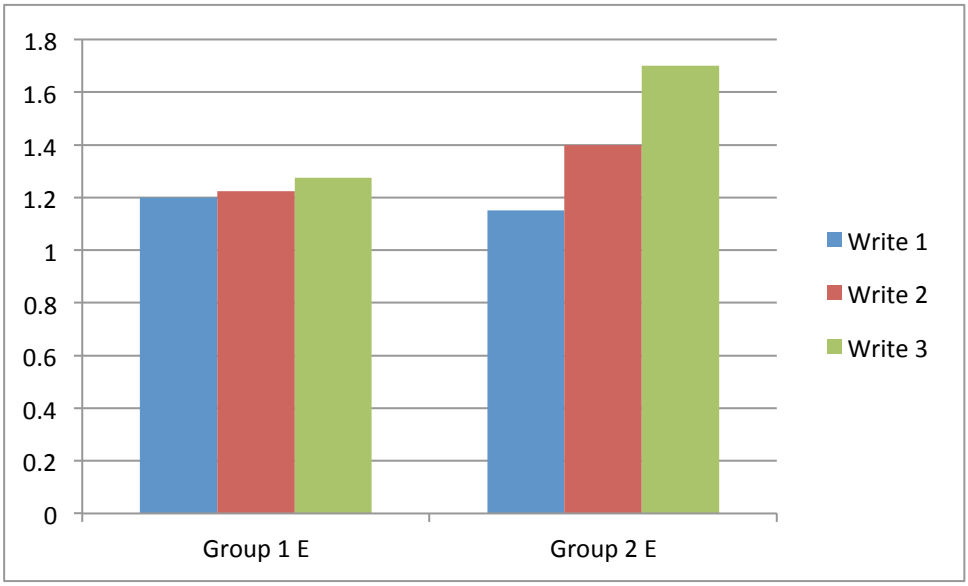


Figure 7.21 Mean asTTle writing scores for European participants by group.

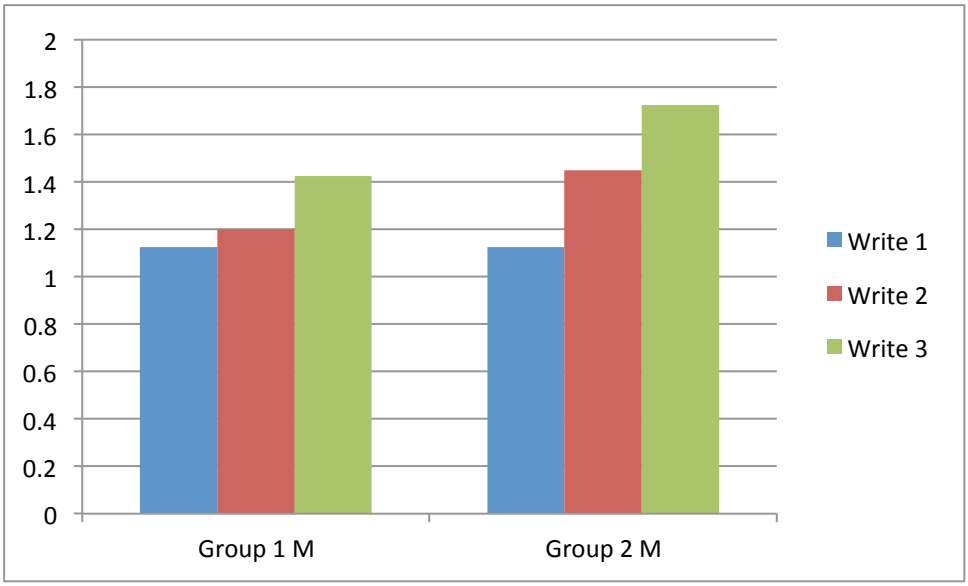


Figure 7.22 Mean asTTle writing scores for New Zealand Māori participants by group.

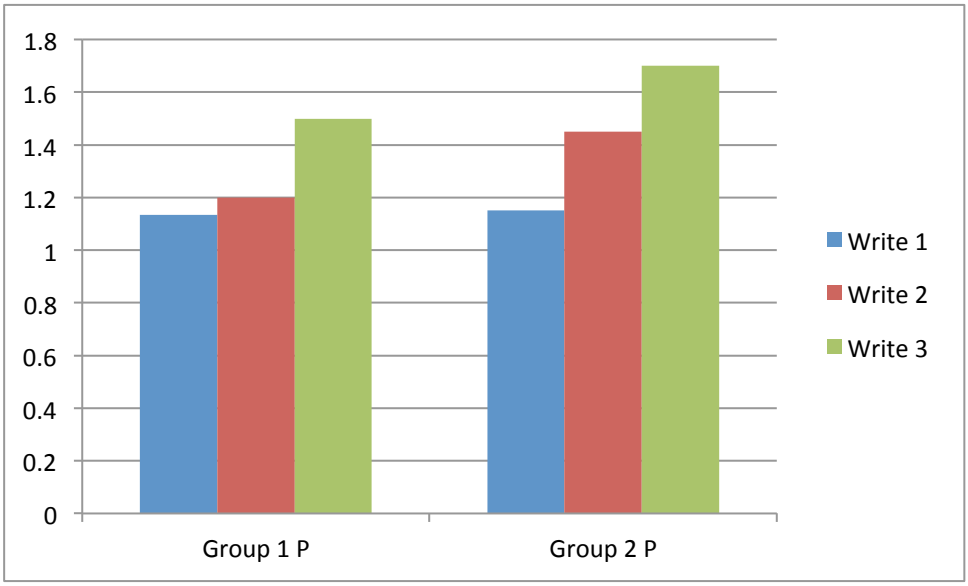


Figure 7.23 Mean asTTle writing scores for Pasifika participants by group.

Looking at the asTTle writing results illustrated in figures 7.21-23, participants in Group Two made more progress than those in Group One, irrespective of ethnicity.

New Zealand Māori participants and Pasifika participants in Group One, made more improvement than the New Zealand European participants in Group One.

7.5.8 Individual results. As with Study Two (see Chapter Six) one participant from each group, that participant with the lowest Reading Recovery level as assessed by the Running Record of Oral reading, by their school, was chosen to ascertain whether either of these intervention programmes would work better for the lowest performing readers. The Reading Recovery levels, seen in Table 7.14 Indicate that both the chosen individual participants were reading at a level expected of a student who had been at school for just one to two months. The same text was used at post and follow up sessions. The number of words correct at each session is recorded for pre, post and follow up sessions.

Table 7.14 Reading Recovery levels and accuracy for individual participants (group mean shown below)

Child	Reading Recovery level	Accuracy Pre test	Accuracy Post test	Accuracy Follow up test
1f	2	79 (81.36)	88 (88.54)	97 (98.54)
2k	1	82 (81.08)	88 (89.08)	98 (98.83)

Neither of the participants reached the 100% accuracy for the prose text although they did show some improvement. Participant 1f was below the Group One accuracy mean throughout the study, while 2k started the study slightly above the mean accuracy level of Group Two, this was not sustained.

Table 7.15 Writing levels for individual participants (group mean shown below)

Child	Writing level pre	Writing level post	Writing level follow up
1f	1.1 (1.15)	1.1 (1.2)	1.2 (1.4)
2k	1.1 (1.14)	1.1 (1.4)	1.3 (1.7)

Table 7.15 shows that the two participants started and remained, below the mean writing level (as per the asTTle timed writing sample) for their respective groups. Participant 1f moved up one level over the course of the study. Participant 2k moved up two levels over the course of the study. The result for participant 2k is above the expected improvement given the time frame of the study (20 weeks).

Table 7.16 Phonemic Awareness scores for individual participants (group mean shown below)

Child	Phonemic Awareness Pre test	Phonemic Awareness Post test
1f	0 (18.6)	3 (24.5)
2k	17 (18)	23 (24.3)

From table 7.16, it is clear that participant 1f was well below the mean for Group One and also well below the level of participant 2k in Phonemic Awareness. This is interesting, as they had exactly the same results in the dialect sensitive spelling test (see Table 7.17). This suggests that possibly neither participant is relying on their knowledge of phonemes to spell words.

Table 7.17 Dialect Sensitive Spelling results for individual participants (group mean shown below).

Child	Spelling Pre test	Spelling Post test
1f	1 (12.27)	5 (17.45)
2k	1 (11.75)	5 (17.91)

Spelling results are based on the counting of dialect sensitive patterns within words as opposed to counting correct/incorrect whole words. Both participants were well below the mean for their groups in the spelling measure. Both improved by four dialect sensitive spelling patterns over the course of the eight weeks of interventions, which was a slightly

smaller improvement than the group means.

Table 7.18 Oral Dialect Density results for individual participants (group mean shown below).

Child	Dialect difference pre test	Dialect difference post test
1f	31 (24.18)	30 (21.63)
2k	29 (23.66)	26 (20.66)

As with all the measures reported on, the two individual participants have dialect density results that are different from the group mean. In this case, the result shows they both had higher incidences of dialect density errors than the norm for their groups. Participant 2k was able to reduce the errors at the same rate as the mean (three errors) but participant 1f reduced by one error while the Group One mean reduction was 2.55 errors.

From these individual results, it can be seen that both programmes had some positive affect on the literacy skills of the participants with the lowest initial reading ability (level) as nominated by their schools. Not as much as the mean for their group in any of the measures though.

7.6 Discussion

The aim of this third study was to establish if the results seen in the first two studies, Study One and Study Two, could be replicated with phonologically matched groups of participants. The previous studies had indicated some increases in literacy skills, particularly improvements in whole text reading, phonemic awareness and spelling from Study Two. Before this study began, the hypothesis was, that this study will show improvements beyond

what could be expected from classroom teaching alone, but that the large gains made by the Phonemic Awareness group from Study Two, would not be seen as both groups were very closely matched, with equal amounts or margins to be gained. While it is not conclusive, it appears that by having chosen phonologically matched groups, it also was revealed in the initial testing of writing and reading by the teachers or literacy expert and also the spelling, and dialect density testing completed in this study that these two groups were closely matched on all testing measures. This was a pleasing, yet unexpected result that may allow for better comparisons to be made between the two different interventions provided.

One of the main differences in this study, apart from the phonologically matched treatment groups, was the use of some specifically developed testing measures. Two measures, the Dialect Sensitive Spelling Test and the Oral Dialect Density Sentence Repetition Test to identify dialect differences were specifically designed, based on information and data gathered from the previous two studies, as well as from literature pertaining to research in dialect differences (Terry & Conner, 2010; Pearson et al., 2009; Seymour et al., 2005). One other measure was adapted to allow for a more accurate depiction of progress, and this was the Running Record of Oral Reading, in to the oral reading of prose. These measures will be looked at in more depth as part of the discussion around their specific results.

7.6.1 Writing Progress. As indicated in the statistical analysis of the timed asTTle (Ministry of Education, 2011) writing sample in figure 7.8, there was a significant interaction effect that suggested that the group that received the Phonemic Awareness and Dialectal Awareness intervention made better prograss in writing than the group that received the Phonemic Awareness only programme. This effect was not evident in Study Two, and given that the two groups in this study were evenly matched at pre-testing in all measures, this may suggest the need for further research into the effectiveness of the Phonemic Awareness and

Dialectal Awareness programme with regards to writing specifically.

However, as discussed in Chapter Four, the timed asTTle (Ministry of Education, 2011) writing sample is considered to be a subjective assessment measure, and this particular study, some of the participants' work was assessed by their classroom teachers and others were assessed by a school-based literacy expert. I contend that the work assessed by the literacy expert may have had differing score than that assessed by the classroom teachers, by way of the notion that she was 'an expert' and would possibly have more knowledge than the classroom teachers of the writing process and also of the use of the assessment rubric. This could therefore be one reason that these results may not be considered to be statistically viable.

The second factor that causes this assessment data to possibly be unreliable is that curriculum level scores, indicating the level the student was working at as well as whether they were at the basic, proficient or advanced sub-level, are stipulated as varying degrees within that sublevel. Only the teacher or maker of the writing sample would know the details of this, and it was not possible to observe this making process. For example, in the results, child 2b had a pre intervention score of 1b (level one basic), but as I did not have access to the actual samples, it is unknown how close to the next level, 1p (one proficient) that participant was when I began the eight weeks of intervention. At post intervention testing, that participant had moved to level 1p (one proficient) and at follow up data gathering, they had moved to level 2B (level two basic). Taken at face value, it would appear that the participant had made very good progress in the space of six months, given that the expectation is to move one level every six to eight months. Pertinent to not seeing the writing samples, is also the question as to which particular areas of writing had the participants made their improvements in, surface features or deeper features. This is discussed in depth, in reference to the study as a whole, in Chapter Eight.

7.6.2 Reading Progress. Assessment information with regard to reading ability was provided by the classroom teachers and/or the literacy expert at the two schools. This information was initially in the form of the Reading Recovery level that the child was on, and was used primarily to inform the decision to put forward the child as a possible participant in the study. As with the writing and phonemic awareness testing, both groups were very closely matched in average ability. However, as previously discussed, the Running Record of Oral Reading (Clay, 1993), is not a standardized test therefore to gain information on any possible improvements in the participants' oral reading skill, these original Running Record levels were converted to an accuracy score out of 100 (words read).

While it was relatively straight forward to track the improvement in total number of words read correctly at each subsequent testing, no record was taken of specific words/sounds that had been incorrect was taken. If this information had been retained, more use could have been made of these prose reading samples. For example, it would have been useful to track particular words or spelling patterns that were problematic for individual participants, and subsequently ascertain whether either of the intervention programmes was more successful at resolving any particular issue. This is viewed as a limitation of this particular measure in this study and would be something to consider in future studies.

As mentioned in the results section, many of the participants came to the study with Reading Recovery levels that were well below the expected level for both their age and time in formal schooling, according to the New Zealand National Standards (Ministry of Education, 2009). Of particular note, participants 1a, 1b, 1f and 2b, 2d and 2k were on levels below the expectation for a child that had been at school for three months whereas they had all been at school for over one year. At follow up, four of these participants were still not able to read the same text with 100 percent accuracy. So while the results overall for the reading appear to be encouraging with regard to average progress made by both groups, there were

individual results that were less encouraging. It should be noted, however, that participants 1f and 2d were referred on and accepted on to the Resource Teacher of Literacy (as discussed in Chapter Two) roll for their school cluster (a cluster of schools in New Zealand, is a number of schools that are usually close in geographic proximity, who share certain specialist teachers and resources). This is an indication of the extent of the difficulties these particular participants had with attaining appropriate literacy skills. A Resource Teacher of Literacy only has a maximum of ten students on their roll at any given time. Being accepted on their roll can be influenced by the socio-economic status of the location of the school cluster. Frequently, low socio-economic status areas have a higher proportion of children who are struggling with literacy acquisition than higher socio-economic areas (Nicholson, 1997), as discussed in Chapter Two.

Participant 2f, while being on a slightly higher level than the other individuals mentions, Reading Recovery level eight, which is the level expected after approximately six to eight months at school, also failed to attain 100 percent accuracy on reading the same piece of prose at follow up testing. In this instance, this participant produced the lowest accuracy level at follow up of only 93 %, which is deemed to be the instructional reading level for that child (Clay, 1993). This participant did however, make better gains with their writing than the other participants mentioned. This may have something to do with why this particular participant was not accepted for further intensive instruction by the Resource Teacher of Literacy. Although, I have no information to back up this contention, and the participant did go on to receive additional tuition from the literacy expert within the school.

The slightly better gains by the participants in the Phonemic Awareness and Dialectal Awareness group were not statistically valid, despite both groups sustaining their improvement at follow up testing. To ascertain the effectiveness of the two different intervention programmes with regard to oral prose reading, it may have been better to have

had a cohort group who were receiving classroom instruction only, to facilitate a direct comparison. This would not have been possible with the two schools used in this study as the school that had the literacy expert, was giving a variety of instructional interventions to all other students in that school that were behind with literacy acquisition. In further studies however, this may be a consideration.

Given the literature pertaining to the tail of underachievement (see Chapter Two), the slightly better gains by the New Zealand Māori and Pasifika participants in Group Two, (Phonemic Awareness and Dialectal Awareness group), could suggest that this intervention is better suited to the learning styles of these participants.

7.6.3 Phonemic Awareness Progress. Participants were chosen and assigned to a particular intervention group based on their phonemic awareness pre intervention results. Thus, the groups were very closely matched in this area before the interventions commenced. For the first time, over the three studies, smaller numbers in this study allowed the breakdown of the results in to totals per child, means per group and individual totals in each of the six subtests of the 42 item phonemic awareness test. Mean scores pre and post intervention for each sub test by group were also presented.

Looking at the mean totals per group, both groups remained very closely matched at the post intervention testing. Time constraints did not allow for follow up testing of this measure, which would have indicated the level of sustainability of each of the interventions with regard to phonemic awareness. This is considered to be a limitation of this particular study, which, in future studies, would be given further consideration, as there can be no definitive conclusions as to which intervention was better on the whole, at improving phonemic awareness in these two groups of participants, based on these mean results.

When looking at individual total scores, both pre and post intervention, certain individuals stand out. Participants 1f and 2d, again made very little progress over the eight

weeks of the interventions, which is on reflection not surprising, given their later referral and acceptance as having high degrees of learning difficulties. Interestingly, participants 1b and 2k who had struggled to make significant progress with their reading and in 1b's case with their writing as well, both demonstrated improvements in their phonemic awareness, with 1b improving by ten correct items and 2k by six correct items. Participant 2f recorded an initial score of three correct items out of 42 and at post testing had eight correct items. This is very low, but as was discussed in the reading progress section, perhaps not quite low enough to be accepted on the Resource Teacher of Literacy's roll, given that there were others who had recorded poorer scores.

By breaking the phonemic awareness test into sub test components, it is possible to ascertain the tasks that are more difficult for students who are struggling to attain appropriate levels of literacy skills. Literature suggests, see for example, Gillon (2004), and Nicholson, (2005) that substituting of first and last phonemes is more difficult for students to attain, and the results back up this research, with both groups finding these two tasks the most difficult both pre and post intervention testing. As mentioned in the method section, based on previous personal experience with studies One and Two, I changed the order of the subtests, to an order which I felt, would be easier for the participants. However, the results did not entirely back up my contention.

The phonological awareness group, according to initial testing results, found the order of subtests, from easiest to hardest to be thus:

i. Segmenting
ii. Blending
iii. Deletion of last phoneme
iv. Deletion of first phoneme
v. Substitution of first phoneme

vi. Substitution of last phoneme.

The phonological awareness and dialect difference group had a slightly different order:

i. Segmenting

ii. Deletion of first phoneme

iii. Deletion of last phoneme

iv. Blending

v. Substitution of first phoneme

vi. Substitution of last phoneme.

Neither of these followed the order of the test as prescribed by Roper (1984) or the order suggested in other research (Gillon, 2005; Nicholson, 1999), with regard to ease of completion for participants.

In the post intervention testing, the phonological awareness group had one change in their order of ease of completion, with deletion of first phoneme becoming easier than deletion of last phoneme. The Phonemic Awareness and Dialectal Awareness group also had a change of order, with their post test results following the order that I administered the test, based on my previous experience and discussed in Chapter Four. This result is the only piece of evidence that backs my assertion that children find the difficulty of the tasks to be the same as I had predicted. Given that both groups did find segmenting to be easier than deletion of either first or last phonemes, in both the pre and post testing phases, this could be encouraging as far as continuing to use the order as I have in these studies.

It is interesting to note the difficulties all the participants initially had with substitution of last phoneme compared to their ability to delete the last phoneme. More research could be done in this area to ascertain whether participants with a higher dialect density, particularly in the area of omitting endings of words or having glottal stops in final /t/ sounds, also have more difficulty in tasks involving final phonemes.

As mentioned in the results section, consideration could be given to the difference in order of ease of task, based on the differences in the two intervention programmes. The Phonemic Awareness and Dialectal Awareness group had the onset/rime component to their intervention, which may have highlighted the difference between beginnings and endings of words. This may in turn improved their ability to blend phonemes, taking this subtest result from fourth to easiest to complete on average for this group. It is not possible to confirm this from the small scale of this particular study, but there is scope for more work and research to be done in this area.

The varying contentions within predictors of reading and spelling ability can also be considered here. Some claim that phonemic segmentation is the best predictor of reading and spelling ability (Bradley & Bryant, 1985; Nation & Hulme, 1997; Post et al., 2001) whereas others (Bryant & Goswami, 1987; Goswami, 1991; Treiman,1985; Treiman & Zukowski, 1991) contend that children's knowledge and ability to segment words in to onset/rime divisions develops before their phonemic segmentation skills, and that phonemic segmentation skills improve as a consequence rather than a predictor of reading. Thus, in this study, Group Two, who received the onst/rime component in their intervention, showed a greater increase in their phonemic segmentation ability at post intervention. This may therefore support the claim that the development of onset/rime segmentation ability occurs before phonemic segmentation ability. Thus as their onset/rime ability increased, so did their phonemic segmentation ability. Without specific testing in onset/rime ability, it is not possible to ascertain this through the current study.

7.6.4 Spelling progress. The results section reported the spelling results based on overall word correct for each item, and also for target dialect sensitive spelling pattern for each item. For the purposes of this discussion, the dialect sensitive areas of each item are considered to be the most relevant, given that one of the aims of this research was to

investigate whether adding an awareness of dialect difference to an early intervention programme would help to improve reading and writing outcomes for struggling readers and writers.

Spelling is a considered a surface feature of writing, and while research shows that oral dialects and forms of non-standard English are evolving, both overseas and in New Zealand (Gordon & Deverson, 1998; Holmes,1997; Maclagan, et al., 2008; Treiman, 2004), teachers assess spelling and make judgments as to children's progress through dictated tests and through writing samples. Statistically, the gains made by both of the groups in this study were not large, but the decreases in dialect sensitive spelling patterns were pleasing.

As predicted in the original hypothesis in Chapter Two of this thesis, and also in the aim for Study Three in the introduction to this chapter, the addition of an awareness of dialect difference to a phoneme based intervention programme can help with attainment of literacy skills, in this case spelling, but not with statistically larger gains than the phonological awareness programme on its own. Given that the Phonemic Awareness and Dialectal Awareness group did have less dialect sensitive errors than the Phonemic Awareness only group, particularly in the /th/ fronting, it suggests that making participants aware that their oral dialect is perfectly fine when speaking, but that they need to think about the sounds in words when they are written, is indeed a useful component to add to an early literacy intervention. The /th/ fronting dialect feature was the most common feature for both groups in their oral dialect density testing, thus to attain this improvement is encouraging and worthy of further investigation.

7.6.5 Oral Dialect Density progress. As previously mentioned in Studies One and Two (see Chapters Five and Six), it was never the contention of this research to actively influence the oral language (dialect density) of any of the participants. As such, it has been a by-product of the interventions, that has seen participants in Studies Two and Three,

demonstrate less dialect features of their speech during the course of the interventions.

Dialect density in their oral language was not assessed at the follow up testing, therefore it is not known whether these changes were sustained beyond the intervention period.

There are a couple of important considerations with this aspect of the research. The first is, that given that both groups made changes to their oral language, it could be contended that it was the positive role modeling of standard English pronunciations that had an effect on the participants pronunciations and instances of dialect density. This was also evident in Study Two, reported in Chapter Six, therefore while the results appear positive for the inclusion of the dialect awareness component, further investigations would need to carried out to confirm this.

Another important consideration is that while the participants showed a reduction in dialect density when repeating the sentences in the testing situation, there is no data available as to whether or not their speech patterns were changed when engaging in general conversations with friends and family, both in the school setting or out of school.

It would therefore be interesting to include observations of participants in a more natural setting, to compare speech patterns and possibly ascertain whether they are developing the ability to 'code-switch' to suit the situation or setting of the interaction.

Taken together, the results for all the measures used in this third study are more accurate, given the matched abilities of the two treatment groups. In all measures, the Phonemic Awareness and Dialectal Awareness group made slightly better gains than the Phonemic Awareness only group, which supports the original hypothesis for this research. There are some interesting ideas for possible further investigations that have been generated from this and the previous two studies. These are discussed in more depth, including how the findings may relate to current theories of reading and writing, and possible implications for

teaching practice, in the following discussion chapter, Chapter Eight.

Chapter 8

General Discussion

8.1 Introduction

This chapter will consider the findings from the three studies reported as part of this thesis. It is divided into three parts. First a brief overview of the findings is presented. Second, six specific findings are discussed and finally, possible limitations and future directions for research are discussed before concluding statements are made.

The aims of the research were: (i) to determine whether direct instruction in dialect differences (dialectal awareness) would lead to improvements in the reading, writing and spelling performance of children struggling with literacy acquisition in their early years of learning; and (ii) contrast the effects of an intervention programme that combined Phonemic Awareness training with the teaching of meta-awareness of dialect difference with interventions that focused on Phonemic Awareness or Dialectal alone alone, and a general classroom teaching programme.

8.2 Overview of findings from the three studies

Each of the three studies showed evidence for improvements in language and literacy related skills, following training in either a Phonemic Awareness Programme only, a Dialectal Awareness Programme or a programme that combined Dialectal Awareness and Phonemic Awareness training. The major findings were as follows.

In Study One, a Pilot Study involving two girls who were struggling to attain age appropriate literacy skills, two different interventions were trialed and data pertaining to Dialect Density and characteristics of local dialect were gathered. Dialect Density refers to the number or percentage of utterances that are affected by a person's dialect, that are

difference to the standard English expected in academic situations. Both participants made improvements in all their literacy skills after the eight weeks of interventions. This was significant given that they had both been at school for approximately two years and had made very little progress, and in the eight weeks of the interventions they made more than eight weeks of progress. For example, in Spelling, they made an average gain of three months in Spelling Age. One participant, who received the Dialectal Awareness instruction, was able to resolve her omission of final consonant /t/.

In Study Two, the quasi-experimental intervention study with four treatment groups results reflected those gained in the pilot study. Mean scores in all measures showed better improvements for the three groups who received sixteen weeks of literacy intervention compared to the control group. Of significance, was the fact that the gains in mean scores in Spelling Age, Burt Word Reading, asTTle Writing, and reductions in Dialect Density were similar between the three treatment groups. Mean improvements in Phonemic Awareness were greater by Group One, who received the Phonemic Awareness intervention, although their age and ability at pre testing was much less than the other groups. Hence the reason for the Third Study.

Study Three produced very similar results in all measures, for the two groups. One received the Phonemic Awareness only programme while the other received the Phonemic Awareness with Dialectal Awareness programme. This was significant as both groups were matched in age and phonemic awareness at pre intervention testing. In both Studies Two and Three, there were some differences in outcomes amongst the New Zealand European, New Zealand Māori and Pasifika participants. This will also form part of the discussion in this chapter.

8.3 Meta-awareness of Dialect Difference (Dialectal Awareness)

Current theories and research pertaining to reading and writing acquisition, as discussed in Chapter Two, acknowledge the importance of oral language. Without adequate oral language skills, children can find it difficult to understand the sounds in words (phonological knowledge) which, according to the Simple View of Reading (Gough & Tunmer, 1986) the Dual Route Theory (Coultheart, 1985) and the Cognitive foundations of learning to read framework (Tunmer & Hoover, 2014) is imperative to learning to read and write. This research has essentially had a focus on children's oral language ability in the form of oral non-standard English dialect in the New Zealand context. The relevance of this dialect and its relationship to oral language development research has become apparent over the course of the three separate studies.

Oral language skills can be defined and separated into specific areas or skill sets; structural language knowledge, (semantics and syntax), phonological awareness, and vocabulary knowledge are three of these skills. Through the testing of dialect differences, both oral and written, it would appear that speakers of non-standard English dialects such as the participants in this research, have different structural knowledge, phonological knowledge and vocabulary knowledge, due to the nature and characteristics of their spoken dialect. Thus, this research appears to support current research that contends that the development of oral language and these three skills in particular, are crucial in literacy acquisition (Konza, 2014; Roth et al., 2002).

Konza (2014) contends that children's oral language ability is formed through rich conversations in the home and during their preschool experiences, therefore it would seem that for children who speak a non-standard English dialect, such as those in this research, their early years, immersed in language, may have been mostly in settings where the dialect was more prevalent than the Standard English used in academic (school) situations. Thus, this

has contributed to the difficulties they have encountered upon learning to read and write in Standard English.

As discussed in Chapter Three, literacy difficulties purported to be caused by such differences in oral language (dialects) can be successfully remediated or reduced through explicit training in dialect differences with speakers of African American English (Connor & Craig, 2006; Ivy & Masterson, 2011; Thompson et al., 2008). This current research shows that explicit instruction (meta-awareness) of dialect differences can contribute to improvements in reading, writing and literacy related skills such as Phonemic Awareness, Spelling and Word Reading (see results sections in Chapters Six and Seven).

In Study Two (Chapter Six), Group Three received Dialectal Awareness instruction for the first eight weeks of the intervention study. During this time, the mean scores for Phonemic Awareness improved equally as well as the participants in Group Two who received Phonemic Awareness instruction as well as Dialectal Awareness instruction. They also performed equally as well in Individual Word Reading as Group One over the first eight weeks, making a gain of six and a half months in Word Reading Age over the eight-week period. This is an important finding within this research, as it reflects findings from studies done with African American English speaking children while at the same time refutes claims by other researchers, that training in Phonological Awareness, specifically at the phoneme level is the most effective way to improve reading, writing and literacy related skills (Arrow et al., 2015; Gillon & McNeill, 2010; Nation & Hulme, 1997).

While Group Three did not make quite as much progress as Groups One and Two in Study Two, in spelling, they did make almost five months spelling age progress over the first eight weeks, which when compared to the control group (Group Four) is an improvement of 4.55 months more than the control group. This substantiates the claim that dialect difference training is an effective means of improving reading, writing and literacy related skills. It also

concurs with research by Patton-Terry and Connor (2010) who claim that direct instruction in dialect sensitive spelling patterns is required for speakers of non-standard English (African American English) to achieve mastery in spelling.

In previous research, one method of Dialectal Awareness instruction was the Overt Comparison method (Hagemann, 2001, see Chapter Three). Although this was used with older participants, the idea of making participants aware of the differences through comparison was utilized somewhat throughout the three studies in this research, but more as an incidental event when it occurred, rather than as a systematic training method (refer to description of interventions in Chapter Six).

In other research by Connor and Craig (2006), African American children who participated in a correlational study that compared African American English and emerging literacy skills, received the literacy component of the 'Head Start' (US Department of Health and Human Services, 2010). This involves explicit instruction that begins with the imitation and enjoyment of rhyme and alliteration knowledge and progresses through to identifying rhyming words, syllables and phonemic changes. Concurrently, alphabet knowledge (recognition and letter/sound correspondences) are also part of the instruction and goals for the learners. No indication of specific training, such as the use of onset/rime patterns, is mentioned, but it would appear that the progression follows the continuum of Phonological Awareness progression (see Chapter Two). The apparent lack of specific instructional methods for achieving a reduction in Dialect Density or achieving code-switching, was problematic, thus, based on successful results from the initial pilot study (Study One in Chapter Five) onset/rime training formed the basis of the dialect difference component of the interventions in Studies Two and Three.

The nature or method of explicit instruction in Dialect Differences used in this research has also revealed results that are important to the field of literacy interventions and theories

of reading and writing.

8.4 Onset/rime training compared with Phonemic Awareness training.

All three studies in this research involved the use of a Phonemic Awareness test as a measure of assessment and progress, while studies Two and Three incorporated a treatment group that received specific training in Phonemic Awareness, while a second group received Phonemic Awareness training coupled with Dialectal Awareness training centered around the use of onset /rime patterns in Standard English. The results of these two groups, in Study Two and Study Three were very even, and Group One (in Study Two) performed better in the second eight week period of the intervention having also received the Dialectal Awareness training, it is pertinent to discuss this with reference to the research that contends Phonemic Awareness training to be the most effective method of improving literacy outcomes for students who are struggling to attain appropriate literacy levels. (Gillon, 2004; Gillon & McNeill, 2010; Nation & Hulme, 1997)

Some research, such as that of Goswami (1991) and Treiman and Zukowlski (1991) suggest that the intrasyllabic phonological awareness skill of onset/rime detection and segmentation develops before the ability to recognize and manipulate individual phonemes in words, which occurs after children begin to read and spell. While Post et al. (2001) suggest that because reading and spelling inform each other, the teaching of rime patterns is beneficial to both skills, and equally as efficient as instruction in phonemes, when the same spellings were being taught. Thus, it may be that while phonemic awareness training is an effective way to improve outcomes for those who are struggling with literacy, if they are not yet proficient with the proposed earlier skill of onset/rime segmentation knowledge, it is possible that onset/rime training may be equally as efficient in improving children's reading, writing and spelling.

To consider phonological awareness development as a continuum, with onset/rime knowledge preceding phoneme knowledge within the context of this research, possibly explains why the groups that received onset/rime training combined with phonemic awareness training, were able to display equal improvements as those who received the phonemic awareness training only. It would appear that remediating a lack of knowledge from the beginning of the continuum, may be as beneficial as remediating a lack of knowledge from further on in the continuum. Or alternatively, participants may have been situated in a variety of positions along the continuum, therefore instruction in onset/rime was better suited to their needs. Without inclusion of onset/rime testing, this is not possible to ascertain.

Given that the groups receiving Phonemic Awareness training produced results that would be expected based on prior research, and that the groups receiving the specific interventions made more progress than the Control Group, this current research can be deemed to be reliable and as such, important in that it it may challenge some research that claims improvements in reading are best achieved by instruction at the phoneme level (Gillon, 2004; Gillon & McNeill, 2010; Nation & Hulme, 1997).

There is some recent research, in the area of Dynamic Assessment of decoding ability to predict reading difficulties, that has included a direct comparison of phoneme level (sound-by-sound) decoding training and onset/rime level decoding training (Peterson et al., 2016). While the aim of that research was to compare static assessments over dynamic assessments, and the accuracy of a combination of static and dynamic versus dynamic assessment measures, the results of the two forms of dynamic instruction as part of the testing measures, yielded very similar, positive results. Thus, it would appear that this current research, while questioning the large body of work pertaining to the effectiveness of phoneme level instruction, can also back up the findings of Peterson et al.'s (2016) particular research

released this year.

In the case of this current research, no specific measure of onset/rime ability was included in any of the testing measures, therefore, this would be a consideration for future research pertaining to the inclusion of a Dialectal Awareness component (involving onset/rime patterns) in a phonological awareness early intervention programme. One factor that may need to be considered, is the effectiveness of a Dialectal Awareness intervention, based at the phoneme level as opposed to the onset/rime level. Given that Phoneme level training is more supported by prior research than onset/rime training, and that meta-awareness of Dialect differences does improve literacy outcomes for those who speak non-standard English, it may be that the combination would yield better results than those reported in this research. Clearly, this would therefore appear to be the next logical direction for future research to take, when considering dialects of English and the acquisition of literacy skills.

Recently in New Zealand, the inclusion of Phonemic Awareness testing and training is advocated for small groups and individuals at the outset of their schooling (Arrow et al., 2015; Gillon 2010). It has only more recently (within the last five to ten years) been included in New Zealand schools, as teachers strive to include research-based pedagogy into their classrooms. Given the results from all three studies in this research, there could be the contention, that wider phonological awareness training, such as the onset/rime dialect awareness programme included in this study, could be used as well as or instead of a phonemic awareness training programme. This would give teachers the opportunity to achieve improvements in phonemic awareness. This is one of the main skills underpinning literacy attainment (Gillon, 2005; Gillon & McNeill, 2010), while also improving children's understanding of their own oral language differences and the implications of that on their literacy learning.

Taking into consideration the influence of Phonemic Awareness on literacy attainment, with the suggestion by Treiman et al. (1994) that children's errors in spelling are linguistically based (for example, writing *city* as *cidy* due to the way they pronounce the word), provides a possible link to the notion that reducing such linguistic differences, may contribute to better spelling results. Thus, with the link between spelling and reading having already been established (Ehri, 1989, 1997, 2000; Post et al., 2001), it may be that reducing linguistic differences due to Dialect Differences may therefore assist in improving literacy outcomes for struggling readers and writers.

8.5 Reduction in Dialect Density and code-switching

Relevant to research around dialects of non-standard English, African American English and Māori English in particular, is the evidence pertaining to 'code-switching' or shifting from the use of dialect to the use of Standard English in oral and written situations (Charity et al., 2001; Maclaggan et al., 2008). Code-switching necessarily requires a reduction in the dialect density (number and type of differences in speech compared to Standard English due to a spoken dialect) of a person's oral language. Throughout the research, but specifically in Studies Two and Three reductions in dialect differences or density were noted from pre to post intervention.

Studies such as those by Charity et al. (2001) and Maclagan et al. (2008) found that speakers of non-standard English dialects, such as African American English and Māori English respectively, were able to code-switch, or change to Standard English language as circumstances dictated. Their research identified that this normally occurred after the age of around 12 years or as adults. Research by (Connor & Craig, 2006; Ivy & Masterson, 2011; Thompson et al., 2008) indicated that individuals who had the ability to code-switch, improved their literacy outcomes, which could in part explain some of the improvements seen

in literacy and literacy related skills in this research.

Based on the mean scores for all groups of participants in Studies Two and Three of this research (dialect density levels were reduced in measures of spelling and oral language) it could be deemed that they were seemingly able to code-switch, in that the testing data indicated less dialectal influence as the studies (Two and Three) progressed. Subsequently, given the use of a control group in Study Two and that their Dialect Density reductions were the smallest, it would appear that practice effects could not explain the reduction in Dialect Density in this research. (Research has shown, that repetition of exactly the same test can lead to practice effects, whereby results in subsequent tests to the first, yield improved results due to participant knowledge of the testing measure (Cohen et al., 2001; Duff et al., 2012).)

While the results for overall reduction in Dialect Density were similar for Groups One and Two in both Studies Two and Three, Group Two who received the longest period of time with the Phonemic Awareness and Dialectal Awareness intervention, had the lowest sustained level of Dialect density at the follow up assessment. Similarly, Group Two in Study Three had a mean reduction in Dialect Density that was slightly better than that of Group One. If this is taken together with the research that maintains that lower Dialect Density levels yields better spelling pattern knowledge and thus better vocabulary knowledge (Kohler et al., 2007) and that lower Dialect Density scores and the ability to code or dialect shift facilitates improved reading scores in standardised measures (Craig & Washington, 2005), it suggests that this current research replicates and supports the findings, which thus far have referred to the Dialect Density of African American English speaking participants.

Of importance in this research, is that after searching the literature pertaining to Dialect Differences, Dialect Density and literacy acquisition, there appears to be no other research that has investigated the New Zealand situation. Given that this research has shown to be successful in improving reading of connected text, writing and literacy related skills

(spelling, phonemic awareness and individual word reading), ascertaining possible reasons for the success are vital to understanding why and how this therefore implicates current theory and practice. Hence, through the correlations of literacy skills tested and the Dialect Density measures, it can be seen that Dialect Density is negatively correlated at a significance of 0.01 for spelling, word reading and phonemic awareness at pre-intervention testing and that as the interventions progressed, this reduced to a significance at the 0.05 level (see tables of Pearson Correlations in appendix 2.4).

However, while the research does facilitate Dialect Density reductions, and that the combination of a Phonemic Awareness training with Dialectal Awareness proved to be better at reducing Dialect Density, the data pertaining to actual improvements in the specific literacy skills tested, reveal interesting outcomes, given the literature that pertains to the contention that Phonemic Awareness training is the most efficient way to improve literacy outcomes for children who are struggling. This will be discussed in the next section.

To claim that lower Dialect Densities have facilitated the early onset of code-switching is not fully substantiated, as all the results were gathered in the context of a testing scenario. Whether or not the participants are able to code-switch outside of the testing situation is not known. This possibility could have been further investigated through observations of participants in classroom or playground settings, or learning interactions with other teaching professionals. There is scope for further research in this area, that could include data from testing situations, combined with less formal situations, to ascertain whether or not the Dialect Density component did indeed facilitate the ability to code-switch earlier than has been seen in prior research, particularly in New Zealand contexts. Alternatively, it could be construed that if the participants are indeed able to code-switch in the testing situation, and this is reflected in their current literacy skills in Standard English, do they need to apply this knowledge in social situations such as they playground, or is this in fact where they are and

should be able to switch back to their familiar dialect? Once again, this notion could be further explored through future research with a wider range of participants over a longer time frame, thus, a longitudinal study throughout New Zealand.

With regard to possible impact of these findings on teacher practice in New Zealand, modelling of correct speech, along with specific dialect awareness training, resulted in lower occurrences of dialect differences, post intervention, in participants in Study Two of this research. Given that modelling is a direct act of teaching, expected to be included in teaching pedagogy in New Zealand, and the importance of letter/sound knowledge in the acquisition of reading and spelling (Gillon & McNeill, 2010; Magee & Fraser, 2012; Ministry of Education, 2004), inclusion of this component of the research interventions could be useful for teachers, particularly in areas of New Zealand where dialect differences are more pronounced. These areas are typically those of lower socioeconomic status, where oral language and reading-related skills have been shown to be below that which is required for children to reach appropriate literacy levels. (Arrow et al., 2015; Nicholson, 1997). Children are known to 'sound out' their words in both reading (decoding) and spelling (encoding) situations, thus most often passing through a stage whereby they spell phonetically (Ehri, 2004; Pressley, 2006) If inclusion of a dialectal awareness programme can improve children's productive language, it may therefore also improve their spelling and decoding of written texts.

The manner in which the dialect density was able to be reduced and the reading, writing and literacy related skills were improved is one of the most critical contentions of this research, as while the hypothesis was that the addition of a meta-awareness of dialect difference to a Phonemic Awareness intervention would be more beneficial for struggling learners than a Phonemic Awareness programme on its own was not realized, the results do indicate that there is very little difference in the outcomes. That is, both interventions appeared to have worked equally as well.

Sitting alongside the aim to improve participant's literacy skills, was the information gained pertaining to the particular form of non-standard English dialect being spoken. Dialect Density level were able to be reduced over the course of the studies and comparisons with previously reported dialects both in new Zealand and around the word were able to be made. Ideas as to the exact characteristics recorded may be useful in further defining dialects or a specific dialect in New Zealand

8.6 New Zealand Dialect

Data obtained in this research revealed that many of the participants spoke a dialect that had characteristics or dialect density features that were reported in prior research as being typical of either Māori English and/or New Zealand English. These common characteristics are:

Māori English

i. devoicing of final consonant /z/ (*eyes* becomes *ice*)
ii. Substitutions for the /th/ sound (/t/, /d/, /f/, /v/)
iii. glottal stop final /t/ and /d/

New Zealand English

i. /th/ fronting (substitution of /f/ for /th/)
ii. non-rhotic
iii. r-linking
iv. retroflexed r
v. glottal stop final /t/
vi. intervocalic flap /t/
vii. velarized /L/

viii. /tr/ affrication

ix. near/square merger

Common characteristics of the non-standard English dialect noted in this research included some previously reported in Māori English and New Zealand English, although the dialect appears to be more typical of New Zealand English. The inclusion of some previously documented characteristics of Māori English could be the result of ethnic composition of the schools included in the study. Alternatively, the inclusion of Māori participants in all three of the studies may have influenced this result, but this is speculation. Further research would be needed to ascertain this however.

The contention by Bauer and Bauer (2002), Meyerhoff (2006), Gordon and Deverson (1998), Hay, McGlagan and Gordon, (2008) and Kuiper and Allen (2010) that New Zealand English is still evolving and changing could also account for the shared characteristics between Māori English and New Zealand English noted in this research. One currently reported change is that New Zealand is losing the *here/hair* distinction (Kuiper & Allen, 2010). As mentioned, the ethnic composition of the schools, combined with the ethnic composition of the suburban locations of the schools, within the lower socio-economic areas of the city and the knowledge that New Zealand Māori students are over represented in the tail of underachievement in literacy in New Zealand, could all feature as factors in an explanation of characteristics noted.

What is less easily explained, but of note, were the characteristics shared with African American English but **not** with Māori English or New Zealand English.

African American English

i. consonant cluster movement (*asked* becomes *aksed*)

ii. devoiced /d/, /b/, /d/

iii. /g/ /k/ substitution (*ing* becomes *ink*)

iv. omitted final /g/

v. omitted final /s/

Pertinent not only to this research and the recording of these characteristics, but also to the previously documented theory of the evolving nature of New Zealand English (Bauer & Bauer, 2002; Gordon & Deverson,1998; Hay, McGlagan & Gordon, 2008; Kuiper & Allen, 2010; Meyerhoff, 2006), is the question as to how these characteristics have become embedded in this dialect of non-standard English in New Zealand? I speculate, that one suggestion could be that it is possible that an increase in computer based and hand-held gaming devices, along with an increase in videos, movies, television and music from the United States of America and the more recent rise in web-based social media such as *Facebook*, or *Twitter* could be influencing the oral language of certain areas within New Zealand society. A brief perusal of television programmes available on New Zealand television coupled with cinema movies that would be accessible to children the age of the participants, would suggest that the prevalence of African American English spoken may not be enough to have a lasting influence on the oral language of the participants in the research. Without information gained from the households of all the participants, it would therefore be impossible to assume that this was indeed a reason for the characteristics noted in the research. However, oral language is a product of the home and community environment (see Chapter Two) thus influences that may have come to bear on the parents, grandparents and wider community that the participants are from may have helped to shape the use of the African American English characteristics noted. For example, social research (Eccleston, 2014; Ministry of Social Development, 2008; Mitchell, 2001, 2003; Harding & Palasinski, 2016) has shown the influence of the North American 'Gang' culture in New Zealand, with

the advent of young people aligning themselves to the notion of being from either the "westside" or eastside" (of a town or city) or from 'bloods' and 'crips' style gangs (Ministry of Social Development, 2008). The type of language and kinship associated with this, has been adopted and absorbed, particularly by Māori and Pasifika in New Zealand (Eccleston, 2014; Ministry of Social Development, 2008; Mitchell, 2001, 2003; Harding & Palasinski, 2016). Some of this cultural crossover includes dress codes and particularly music, with the African American "rappers" being very popular, particularly given the subjects of their 'raps', which frequently include the problematic lives and lifestyles of African American people in the lower socio-economic classes. The solidarity shown, appears to have been adopted by some New Zealand Māori, as they can equate to the 'struggles' and use this to express their own ideas, incorporating the style and language of their own culture and of the African American people (Mitchell, 2001, 2003). Once again, it is not possible, given that home background and lifestyle was not included in this current research, to claim that these influences have contributed to the dialectal characteristics noted.

It is imperative to note that while the social research cited indicates a means for possible crossover from the African American culture and language, this is speculation within the bounds of this research. Thus, specific research regarding frequency of African American English utterances and the prevalence of factors such as time spent gaming, watching television, movies, music videos and on social media and association with gang style culture over the past decade or two, could be relevant to future documentation of the evolving nature of New Zealand English characteristics.

While these African American English characteristics have not previously been noted within dialects of English in New Zealand, consistent with the changing nature of New Zealand English (Bauer & Bauer, 2002; Gordon & Deverson,1998; Hay, McGlagan & Gordon, 2008; Kuiper & Allen, 2010; Meyerhoff, 2006), it may be that the inclusion of these

characteristics is part of a more natural evolutionary process. Thus, if the evolution of New Zealand English is the most likely explanation for this, it may be that as a more recently colonized country in comparison to Australia or Canada, it could be possible to see the same or very similar characteristics within dialects noted in these countries.

In Australia, Australian English (see Chapter Three) does share the following characteristics with African American English and the dialect of non-standard English noted in this research;

i. omitting final /g/
ii. substitution of /k/ for /g/

Aboriginal English, while mainly distinctive for its grammatical differences from Standard English and Australian English, does share the substitution of /d/ for /th/ as seen in African American English. While no documentation was made for Canadian English in the review of the literature, features of Canadian First Nations English were noted. As with Aboriginal English, many of the characteristics are grammatical or discoursal, but there is evidence of the shared phonological characteristics of

i. omitted final /g/
ii. devoiced /d/, /b/, /d/.

Given the location of Canada to the United States of America, if the evolving nature of New Zealand English could be the explanation for the addition of the African American English characteristics to the dialect of non-standard English noted in this research, it could be expected that dialects in Canada would include more, rather than less, of these common characteristics. Similarly, if the influence of technology – social media, television, music etc., as previously mentioned, is in fact a contributing factor in the use of African American

English characteristics in New Zealand. The proximity of Canada to the United States of America, might suggest that their dialects would contain more, rather than less, of the shared characteristics. Once again, without a deeper look at research pertaining to this, it is not possible to form a definitive cause for the involvement of these characteristics in New Zealand.

What did become evident in all three studies, was the inclusion of a substitution of a complete word in its oral and written form, that being the use of the word *newsd* or *nyoost* in the place of used and the substitution of the phoneme /p/ for /th/ in oral and written form in the word *something (sumpink).* These previously un-recorded dialectal characteristics, do not appear to have been noted in any of the world dialects thus far. The substitution of /p/ for /th/ was not widespread, but had previously been noted by this researcher in classroom observations and social conversation prior to the undertaking of this research.

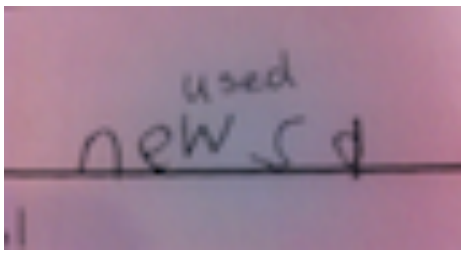
To explain the word substitution in context, participants made the substitution, which is essentially the addition of the phoneme /n/ at the beginning of the word *used,* in the following manner. In general conversation, these sentences were heard;

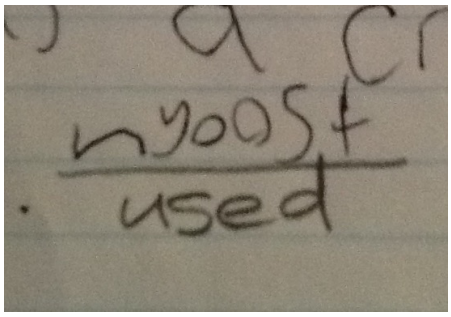
'I newsed/nyoost to play rugby.'

'We newsed/nyoost to go to that school.'

Within a writing sample, this sentence was used;

'She newsed all my paint.'





Given that it appears that this has not been previously documented as a feature in any dialects of English around the world, this could provide a vital clue as to the nature and possible 'evolution in action', that is being documented in New Zealand English. While this may be the first official documentation of this characteristic, it has been previously heard in personal social conversation with children and adults, as long as 20 years ago. Evidence of it being written down, as noted in this current research, does not appear to have previously been noticed in the context of classroom observation or teaching. It is difficult to pinpoint a possible explanation for this characteristic, thus without further research regarding the prevalence and distribution of this characteristics throughout New Zealand no conclusions can be drawn at this time.

A possible cause for the characteristic could be explained by linguistics, but once again this is speculation. The /j/ phoneme at the beginning of the word *used* is a palatal sound, as are the vowels at the end of the words *she, we* and possibly *I* (in the sentences given as example of the use of *nyoost/newsd),* in the New Zealand English context. Thus, certain people may experience difficulty with the transition from ending a word to starting a word with a similar sound, and at some point of the evolution of New Zealand English, the /n/ phoneme has been added. When looking at the written forms noted in this current research, each time it was written, the participant has correctly 'sounded out the phonemes' in the word they are wanting to write, (see examples at the end of this paragraph). Therefore, it seems that it is the direct impact of their dialect difference that has caused the spelling error, not their ability to hear and record the phonemes in the word.

Taken together, this new information regarding characteristics of either New Zealand English, Māori English, or and African American English influenced, evolving New Zealand English, this research has uncovered aspects that warrant further investigation. To be relevant to the ideas around possible reasons for the changes and additions to dialectal chatacteristics

noted in this research, the investigation would need to be on a much larger scale than this current research. It would also need to involve gatering qualitative information pertaining to households and lifestyles as well as specific dialectal characteristics, in order to establish if previously cited influences (Eccleston, 2014; Ministry of Social Development, 2008; Mitchell, 2001, 2003; Harding & Palasinski, 2016) are actually impacting on the non-standard English dialects. Such subsequent investigation may then facilitate further understanding of what best suits the needs of our students with regard to literacy acquisition, for example, the need to make students aware of their dialects and the differences between the dialect and Standard English.

8.7 Relevance of the research for New Zealand Māori and Pasifika children

Within New Zealand, research continues to show that children of New Zealand Māori and Pasifika descent have levels of literacy that are below expectation and their potential (Fletcher et al., 2010; Mcfarlane, 2010), and that they make up a large percentage of the tail of underachievement (see Chapter Two) (Ministry of Education, 2007; Statistics New Zealand, 2008). It has also been noted that the New Zealand Ministry of Education has actively been seeking and implementing teaching pedagogies that can meet the specific needs of these priority learners (Ministry of Education, 2007; Ministry of Education, 2008). Through the analysis of the data by Ethnicity from Studies Two and Three (Chapters Six and Seven) in particular, certain differences in the outcomes became apparent, and could prove to be highly relevant in the pursuit of facilitating improved literacy out comes for New Zealand Māori and Pasifika children.

New Zealand Māori participants in Group Two, in both Studies Two and Three made larger gains in spelling age and knowledge of dialect sensitive spelling patterns than New Zealand Māori participants in all other groups, and also better gains than New Zealand

European participants in all other groups. The only exception being the mean improvement by Pasifika participants in Group Two in Study Three. While it is acknowledged that the number of New Zealand Māori and Pasifika children within the groups in Study Two was disproportionate to the number of New Zealand European participants (see Chapter Six, the numbers in Study Three were equal over all three ethnicities (see Chapter Seven), thus ensuring the reliability of the data.

New Zealand Māori participants in Group Two, in Study Two, outperformed New Zealand Māori participants in the other three groups, in measures of Word Reading age and Dialect Density reductions. Subsequently, New Zealand Māori participants in Group Two in Study Three made slightly better gains in connected text reading than the New Zealand European participants. These results therefore suggest that there may be a component of the intervention that was given to participants in Group Two of each study, that works better either as a direct instructional strategy, or embraces a particular area or learning style that has been shown to be conducive to facilitating learning for New Zealand Māori children.

McFarlane (2010) advocates working collaboratively and embracing cultural diversity within positive nurturing and inclusive environments when teaching New Zealand Māori children. This would not account for the better gains reported by the New Zealand Māori children in Group Two, as all groups, excluding the Control Group (Group Four in Study Two) received the same amount of small group instruction by the same teacher, in the same or similar environment, thus this can be deemed not to explain the difference in improvements. What this does suggest, given the poorer results in all areas measured in Study Two, by the Control Group, is that the results gained by the New Zealand Māori participants in the other three groups, can be somewhat explained by the fact that they were receiving instruction that did meet their cultural needs as defined by McFarlane (2010).

When considering the cultural and learning needs of Pasifika children, Fletcher et al.

(2010) describe the need to work in small groups rather than whole class settings, where they feel they (and their culture) is valued and celebrated, without fear of humiliation. Therefore, the manner in which all three groups other than the Control Group in Study Two, received their interventions can possibly account for the improvement in all areas by the Pasifika participants, as opposed to those in the Control Group. Improvements by Pasifika participants when comparisons are made between the three groups in Study Two and the two groups in Study Three may possibly not be accounted for in this manner.

Specifically, these improvements noted for Pasifika participants were: In Study Two, Group Two participants individual word reading made better gains than all other participants in any group, and Phonemic Awareness for participants in Group Three. In Study Three, Pasifika participants in Group Two made better gains than Pasifika participants in Group One. In prose reading, Pasifika participants made slightly better gains than the New Zealand European or New Zealand Māori participants and were only slightly behind the improvements shown by the New Zealand Participants in Group One. Given that this does not represent or reflect the outcomes seen as the result of regular classroom teaching, as per the Control Group in Study Two and current research (Ministry of Education, 2008), there appears to be a component or combination of components that may be more effective for facilitating literacy acquisition for Pasifika students, that has not previously been noted in research in New Zealand.

Taken together, the New Zealand Māori and Pasifika participants who received interventions that contained the Dialectal Awareness training as well as the Phonemic Awareness instruction appear to have made better gains than those who received the Phonemic Awareness instruction only. Given the importance of this as a contribution to the efforts to improve literacy outcomes for New Zealand Māori and Pasifika children in New Zealand, this would be an area that should be viewed as urgent future research, possibly at a

New Zealand wide level, to ascertain whether this is replicable or whether it may have been due to ability or skill level rather than just an ethnicity difference. If replicable, this could be an important breakthrough for education in New Zealand.

In order to rule out the possibility of skill level differences as opposed to Ethnic differences in this current research, being the reason for the rates of improvement, the specific data in both studies Two and Three, can be revisited. Study two shows that while the numbers were not even, the actual ability levels were very similar for all three ethnicities within the groups, with the exception of the Phonemic Awareness of the Pasifika participants in Group Three, which was half the mean score of the New Zealand Māori and New Zealand European participants. With regard to spelling age, the Pasifika participants were 20 months below the mean of the New Zealand Māori and New Zealand European participants in Group One, but 15 Months above the mean for the New Zealand Māori and New Zealand European participants in Group Two. However, because there were only two Pasifika participants in each of the groups in Study Two, this is not reliable as a means of determining if the difference was ability or ethnic based.

In Study Three, both groups were evenly matched when mean scores were taken into consideration, as this was one of the criteria for that particular study. When mean scores were calculated by ethnicity, New Zealand European participants in Group One had a higher score than the other ethnicities in Phonemic Awareness and spelling of dialect sensitive spelling patterns. In Group Two, New Zealand Māori participants had a mean Phonemic Awareness score that was 5/42 higher than the New Zealand European or Pasifika participants, while New Zealand European Participants recorded a mean spelling score that was the lowest of any of the ethnicities within either of the groups. When comparing this to the improvements made, it can be seen that there is no particular pattern with regard to ability and or ethnicity. For example, in Phonemic Awareness, in Study Three, the ethnicities with the highest ability

within the groups made the most progress, (New Zealand Europeans in Group One and New Zealand Māori in Group Two), whereas in Study Two, the most progress was made by the ethnicities that started with the lowest scores. Hence, without further in depth research, it is still not possible to say definitively whether the gains made by the New Zealand Māori and Pasifika participants, which appear encouraging are entirely due to the suitability of the interventions or not.

However, it may possibly suggest that New Zealand Māori and the Pasifika participants may respond better to interventions or possibly even classroom teaching programmes that include an awareness of dialect differences and how to promote code switching as well as phonemic awareness through the inclusion of explicit onset/rime training. Combining this information with prior knowledge around the learning styles of New Zealand Māori and the Pasifika children, such as (Mcfarlane, 2010), programmes that target and celebrate the diversity of dialect, while at the same time improving phonological awareness, could begin to address the current situation whereby New Zealand Māori and the Pasifika children are statistically low performing in literacy assessment data at both the primary and secondary school levels in New Zealand.

What may seem to be a recurring factor, is the impact of dialect differences, code-switching and the relationship to literacy and literacy related skills. The manner in which these relate to the acquisition of writing is imperative, not only to this study, but to literacy research in general, as there is less literature available that seeks to explain these possible and/or complex relationships.

8.8 The influence of Dialect Differences and Density on Literacy

As previously discussed (see Chapters Two and Three and earlier in this chapter), oral language plays a vital role in vocabulary acquisition, language comprehension and therefore

reading ability. Dialect Density is correlated with reading comprehension (Gatlin et al., 2013) and spelling ability (Patton-Terry & Connor, 2010), while the ability to code-shift (dialect shift) was found to develop first in oral language, followed by reading and finally in writing (Craig & Washington, 2004). Based on these past findings and the results obtained from the three studies reported in this thesis, it may be possible to speculate how dialect differences and density (frequency of occurrences) impact on the attainment of reading, writing and literacy related skills in Standard English, for our struggling learners in New Zealand.

Study Three specifically noted the transfer of oral dialect characteristics, through to written (spelling) features. These were;

i. substitution of /f/ for /th/
ii. substitution of /d/ for /th/
iii. substitution of /k/ for final /g/
iv. omitted final consonant /t/
v. omitted final consonant /d/
vi. omitted final consonant /g/
vii. devoicing of consonant /z/

And while spelling can be addressed as a literacy skill in its own right, the link with reading has been previously noted (Ehri, 1989, 1997, 2000; Post et al., 2001). Spelling is one aspect of writing ability and also one of the seven criteria assessed as per the asTTle timed Writing measure (Ministry of Education, 2011), thus it will impact on a child's final writing grade. When dialect density of oral language is impacting on spelling, there will naturally be a follow on impact in not only reading but also in writing ability, as per the asTTle measure. In Study Two, Dialect Density was correlated with asTTle writing levels, and yielded significant (0.01) negative correlation, that reduced as the number of errors reduced, as did

the Spelling Age correlations (see correlation tables in appendix 2). This only accounts for one feature of the six measured by the asTTle Timed Writing measure. The others measured are punctuation and sentence structure (surface features) and vocabulary, ideas, organization and structure and language.

This current research did not endeavour to instruct participants in any of the other six features of writing, in any of the interventions, although, the sentence dictation component of the Dialectal Awareness intervention may have inadvertently influenced the participants' knowledge of sentence structure, therefore, possibly influencing their achievement in writing in a positive manner. If this were the case, it might be expected that the participants who received the Dialectal Awareness training, would have made better gains than those who did not. Looking at the data from Study Two and Three, it can be seen that Group Two and Three in Study Two and Group Two in Study Three, did indeed make better progress than the other groups and sustained the greatest improvement six months after the interventions had finished (in Study Two). While this is not necessarily indicative of a transfer of sentence structure knowledge from the intervention, the overall improvement in writing ability could not be attributed to spelling ability alone, given the nature of the testing measure. Given that the improvements were evident in both Studies One and Two, it would appear that they are not due to chance.

Grammar and tense were also not specifically taught as part of any of the interventions, but the onset/rime training given as part of the Dialectal Awareness component of the interventions, may possibly have influenced participants' understanding of the 'endings' of words, which may have in turn influenced their specific score in this aspect of the writing assessment. Without an in depth look at the actual writing samples of all the participants, it is not directly possible to state that this has been a positive effect. What can possibly be attributed to the Dialectal Awareness training is an increase in vocabulary, as it has been a

contention of previous research that reductions in dialect density correlate with increased vocabulary (Kohler et al., 2007), and theories of reading and writing attribute vocabulary knowledge as being vital to development.

Thus, it would appear that Dialect Density impacts on all the areas or literacy related skills that are considered to be either significantly correlated with or predictors of literacy attainment.

To illustrate how Dialect Differences and Density impacts on children's literacy attainment in Standard English in the New Zealand context and specifically in the context of this research, a diagram has been developed.

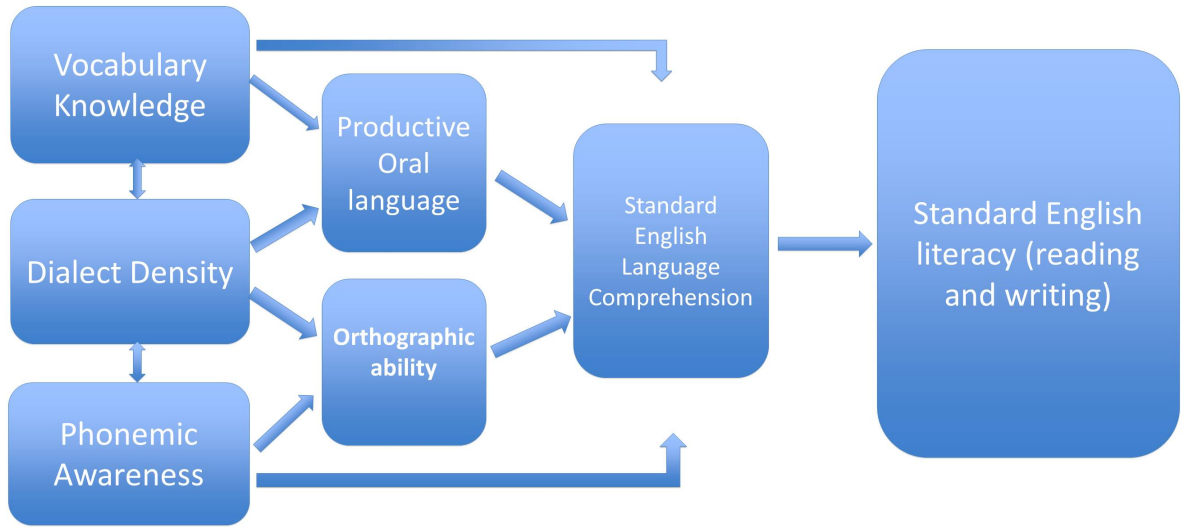


Figure 8.1 model of the impact of dialect density on acquisition of Standard English Literacy.

Clearly, a range of literacy related skills and areas of knowledge must work together to facilitate adequate literacy skills. However, this model proposes that Dialect Density can be implicated in, or central to, all of these skills either directly or indirectly. This is presented as a framework for future research and development, but provides a basis on which to understand the potential implications of speech and dialect on literacy learning. It should be

noted, that the language comprehension skills indicated in this diagram refer to the comprehension of Standard English, not of the Dialect of non-standard English spoken by any individual. It could therefore be presumed that children growing up immersed in a non-standard dialect of English, would have language comprehension of that particular dialect.

The connection indicated between Dialect Density and Vocabulary Knowledge may seem tenuous, as it may involve other circumstances that have not been included in this current study, as vocabulary knowledge was not tested. The purpose of this connection is based on prior research (see Chapter Three) pertaining to Dialect Density and the impact on Vocabulary. The link between Dialect Density and productive Oral Language was noted in this study, as was the information pertaining to the participants being from low socioeconomic households (see Decile ratings in Chapters Two, Five, Six and Seven). Hence, children who are from low socio-economic family situations, who have high dialect density scores may also have poor vocabulary due to vocabulary they experience within their homes and communities (Nicholson, 1997). While this was not specifically tested or analysed as part of this particular research, there is research that claims the link between low socio-economic situations, parental education and vocabulary acquisition.

This diagram could therefore be viewed as a summary of relationships, based on the findings of this current research, between Dialect Density and literacy (reading and writing) ability in Standard English. Theories and Models of reading previously discussed, for example, the Cognitive Foundations of Learning to Read Framework (Tunmer & Hoover, 2014) involve some of these skills although dialect density has not often been a factor considered. Research by Gatlin et al. (2013) and Gatlin (2015) with African American students did consider dialect density as a factor, ascertaining that dialect density was implicated as having an indirect negative effect on reading comprehension through linguistic

comprehension and coding skills in a similar manner in which this current research has.

The one significant interaction effect in Study Three (see 7.5.6 Statistical analyses, Chapter Seven), whereby the Phonemic Awareness and Dialectal Awareness group made significantly better progress in the writing task, argues that the relevance of Dialect Density to writing should be an area of specific consideration. Thus, the focus of future research might be writing in Standard English, rather than reading and writing in Standard English. This focus on writing might be best considered through a comparison of the simple view of writing (Berninger et al., 1994; Berninger et al., 1996; Berninger et al., 1999; Berninger et al., 2002; Jones & Berninger, 2016), where writing (composition) is underpinned by language skills (ideas that are generated), which are translated into text through transcription skills (knowledge of orthographic symbols, spelling and handwriting skills). This would suggest that a child's ability to construct a text is influenced by their ability to generate ideas through general language skills and/or translate information from internal language constructs into written text. Dialect effects might, therefore, be best interpreted as part of the translation processes. Thus, if Dialect Density were to be added to the simple view of writing, it could be considered to be an additional translation skill that might require a specific teaching strategy, such as the Dialectal Awareness component of this research, to overcome and facilitate a learner's ability to efficiently translate ideas onto paper.

This would suggest the need for further investigations both here in New Zealand and overseas, since the importance of Dialect Density to orthographic production skills, and Dialectal Awareness as a specific transcription skill, has not be considered widely. Such future research may provide knowledge the area of how improving the effects of Dialect Density and promoting appropriate levels of code-switching to improve literacy outcomes, specifically in writing, where transcription skills may be negatively affected by Dialect Density.

8.9 Limitations and Future Research

Further to limitations described in the discussion thus far, there were a number of factors that may have impacted on this research. Two of the standardized testing measures, The Burt Word Reading Age Test and the Peters Spelling Age Test were designed and normed during the 1970s, therefore some of the words are not used to the same extent as they were when the original test was developed. Therefore, they may have been outside the realms of vocabulary experienced by the participants and/or culturally biased. For example, in the Burt Word Reading Age Test, words such as 'melodrama', 'fallacious', 'poignancy' or 'phegmatic' are possibly not only rarely used these days even in the academic setting of a school, they are less likely to be heard as part of the oral language experience of the participants in the study. This could therefore have impacted on the participants from a language, vocabulary, cultural, and sociocultural and background knowledge perspective. All factors that are known to influence reading ability. Similarly, in the Peters Spelling Age Test, participants had difficulty with words such as 'women' and 'fraternally', due in the first instance to common mispronunciation of 'women' as 'woman' in New Zealand English, and secondly, by the infrequent use of the word fraternally.

More up to date testing measures could have been utilized, although, both these tests are currently in use in New Zealand Primary Schools. Given that, and the data, which indicated progress for all groups other than the control, it would therefore appear that this has not compromised validity and reliability. Further research could be done to source more appropriate standardized tests, that are less likely to be culturally or socio-culturally biased.

With regard to the Phonemic Awareness Test, originally designed by Roper (1984), modified by Gough, Kastler and Roper, and interpreted by New Zealand researcher Nicholson (2005), there are a variety of other tests that are less time consuming to administer available and currently being used by New Zealand schools. One of the most recent is the

online computer based Phonemic Awareness Test developed by Carson et al. (2009). However, it should be noted, that this particular test was not available at the time of these interventions. For future research, this test would be useful in that there would be no variation in pronunciation of phonemes by the administrator or interference in reception for the participant due to outside noises, as participants would have the benefit of headphones to complete the test.

With regard to the methodology used in this research there are a number of limitations that should be noted with regard to participants and sample sizes. As mentioned in Chapter Five, the sample size was very small (two participants) and could be regarded as a convenience sample, where the participants were chosen because location and suitability to the study. The sample size of Study Three (see Chapter Seven) was also small and in both studies Two and Three the number of New Zealand Māori and Pasifika participants was small and not necessarily representative of the proportions in general public or the communities involved within the studies.

Further limitations pertaining to the methodology include the non-random assignment of participants in Study Two (discussed in Chapter Six) and subsequently in Study Three. The reason for Study Three was based on the fact that Group One in Study Two was not equivalent to the other three groups at pretest, hence this could be considered a limitation as well, although it was identified and Study Three initiated to possibly overcome this issue.

Given that it appears to be limited research involving dialects of non-standard English in New Zealand, with relation to academic achievement or the inclusion of a meta-awareness of dialect differences, the results of this research, coupled with research from the United States of America (Connor & Craig, 2006; Ivy & Masterson, 2011; Thompson et al., 2008) suggest that further investigations would be warranted. Areas of investigation could include;

i. Documenting changes in characteristics and density of New Zealand English

and Māori English, on a large scale, as discussed in section 8.6 of this chapter.

ii. (ii) Correlational research in the area of Dialect Density and literacy acquisition particularly the influence of Dialect Density on spelling and writing, as mentioned in section 8.5 of this chapter.

iii. An in depth investigation, using the separate intervention programmes used in Study One and Two, with New Zealand Māori and the Pasifika participants, to confirm the suitability of a particular programme, for improving outcomes for specific ethnicities of learners. For example, the improvement in spelling of dialect sensitive spelling patterns, for New Zealand Māori participants who received the Phonemic Awareness and Dialectal Awareness programme.

iv. A comparison between a dialectal awareness programme that is onset/rime based, as in this current research, with one that is phoneme based, to ascertain if theories and models of literacy acquisition that purport to the importance of phonemic awareness training can be challenged with regard to reducing dialect density and promoting code-switching.

v. A specific study into the correlation between dialect density (particularly with omission of word endings or glotteral stops in final /t/) and ability in manipulating final phonemes.

The overall aim of any future research would be to inform the proposed model of the relationship between dialect density and acquisition of literacy (reading and writing) skills in standard English.

8.10 Conclusion

Reading and writing for success is paramount for adults in today's society (Pressley,

2006; Slavin et al., 1995; Tymms & Merrell, 2007), and one of the strong predictors of success in reading and writing, is early success through sound phonological awareness skills, particularly Phonemic Awareness (Gillon, 2004; Goswami, 2005; Hall & Moats, 1999; Pressley, 1998). Oral language skills are also considered to be imperative to literacy acquisition. While there is a body of research that contends children's oral language differences, by way of spoken non-standard English dialects, can impact on their literacy acquisition, particularly reading, most of this has been conducted outside of New Zealand.

This research supports recent research pertaining to the changing nature of New Zealand English, but also uncovered some apparently unreported changes in the dialect. It also investigated and reported on the possible remediation of literacy difficulties through a meta-awareness of dialect differences, similar to previous studies in the United States of America with speakers of African American English. This therefore suggests that there is a need for further investigation to document ongoing changes in New Zealand English and to confirm the possible ability to remediate literacy difficulties through meta-awareness of dialect differences. From both a teaching practice and theoretical point of view, this research poses a challenge to current understandings the area of phonological awareness (Phonemic Awareness) and improvements in reading and writing. It also offers an insight as to why and how Dialect Density can impact on children's writing in Standard English.

Given that results may indicate that instruction in onset/rime training (as part of the Dialectal Awareness programme) proved to be equally as effective as instruction in phonemic awareness, this could not only lead to the need for future investigation, but could facilitate changes in the content of classroom and/or second or third tier programmes delivered in New Zealand classrooms, particularly given the specific results for New Zealand Māori and the Pasifika participants (such as the improvements in spelling for New Zealand Māori who received the Phonemic Awareness and Dialectal Awareness programme. With efforts being

made by researchers, educators and the current New Zealand government to address the literacy levels of the 'long tail' of underachievement in reading and writing, this study could prove beneficial to those struggling to reach appropriate literacy levels, particularly those who speak a non-standard form of English and/or are of New Zealand Māori or Pasifika.

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Appendix One: Ethics Documentation and Information/Consent Forms

Appendix 1.1: Application to Educational research Human Ethics Committee

Application Form for Ethical Approval of Research Projects

Educational Research Human Ethics Committee (ERHEC)

Project Details

Principal Researcher:	Janice Belgrave
Email Address & Postal Address	janice.belgrave@pg.canterbury.ac.nz
Phone	03 345 8284
University School / Department:	School of Literacies and Arts in Education, College of Education
Associate Researcher/s:	
Project Title:	Sociocultural and Cognitive Considerations in Early Literacy Interventions.
Student applicants should attach a letter or memo indicating whether or not your proposal has been approved by the relevant committee or Head of Department or School.	

1. What is the purpose of your research project?
(Please check one box only)

- ☐ Staff Research
- ☒ PhD Research
- ☐ Honours or Master's Research

Please indicate name of Supervisor/s:	Prof, John Everatt and Dr Jo Fletcher

2. Description of the project
Please give a brief summary (approx. 300 words) of the nature of the proposal in lay language, including the aims/objectives/hypotheses of the project, rationale, participant description, and procedures/methods of the project:

Background
With the introduction of National Standards into New Zealand schools, there is more demand on Teachers to help their students attain higher levels in literacy. However, intervention programmes i schools are either commercially produced or standardised, such as Reading Recovery, with no allowances for sociocultural differences or different "home literacies"

This research presents a very unique opportunity to consider both the cognitive and sociocultural aspects of struggling learners, through two different early literacy intervention progrqammes. Each programme is based on sound research and theory, and is aimed at improving the reading and writing skills of children who are aged between 6-8 years,and are ineligible to recieve the Reading Recovery Programme, due to restrictions on numbers per school. Initially, there would be a pilot study to confirm the validity of the two interventions, and gage the level and type of need per the cultural componant. it is envisaged that the sociocultural aspect will be the productive language of the participants. Where children are speaking a form of English that is nearing a 'dialect', based on previous research into "New Zealand" or "Maori English", and its impact on literacy acquisition.

Research participants
A variety and levels of participation will be required. School Principals, classroom teachers and Parents will be involved with the gathering of qualitative data through unstructured interviews. Approximately 40 children will be involved in initial diagnostic testing, testing at the mid-point of research phase and final testing. They will all recieve 16 weeks of intervention in total, in a small group situation.

Objectives
This research aims to prove that early literacy intervention programmes need to be specific to children cognitive abilities and also sensitive to their sociocultural needs, to facilitate the best outcomes.

Method
The research will be an experimental design involving;
(i) Initial testing in
1. Running Record (Clay)
2. Peabody Picture Vocabulary test (PPVT) (Standardised)
3. Burt Spelling (standardised)
4. Phonological processing/Phonemic awareness test
5. AssTle writing
6. Alphabet letter/name/word test
7. Burt Sight word reading Test (Standardised)
8. Productive vocabulary test

(ii) Small group intervention for 1 hour a week for 8 weeks (Either Intervention 1 or 2)
(iii)mid point testing
(iv)Further 8 weeks of intervention with the other programme
(v)Final testing

3. Which of the following categories best describe your research project?

(Please tick one box only)

- ☒ Educational or social science research involving humans
- ☐ Psychological research involving humans
- ☐ Scientific research involving humans
- ☐ Other (Please specify)

4. Will this project also require ethical approval from other bodies?

☒ **NO**
☐ **YES**

If yes, please name the body and explain how this approval has been / will be obtained in the space below. Please attach copies of relevant correspondence.

5. What methods will be employed in conducting your research?
(Please tick more than one box if needed)

☐ Examination of normal educational practice or education instructional strategies, instructional techniques, curricula, or classroom management methods, journal, existing data, documents etc.
☐ Questionnaires or surveys
☐ Examination of medical, educational, personnel or other confidential records
☐ Observation (covert)
☐ Observation (overt)
☐ Structured interviews
☒ Unstructured interviews
☐ Deception – Explain why and how deception is used and provide a debriefing sheet
☒ Other (please specify below, stating any significant aspects)

Please explain any significant aspects.

Diagnostic, mid point and post testing as per the method described above.

6. (a) What are the expected ages of your participants?

☒ Children (under 14)
☐ Young people (14-17)
☒ Adults (18 and over including College/University students)

(b) Will this project require approval for access to the participants from other individuals or bodies? *E.g., parents, guardians, school principals, teachers, boards, early childhood centre umbrella organisations, responsible authorities, etc.?*

☐ NO
☒ YES *(Please specify who and provide details of how this will or has been obtained)*

Approval will be required from all participants; School Principals, classroom teachers, parents and students.

7. (a) Anonymity of participants and confidentiality of data?

Please tick YES or NO for each

YES	NO	
☒	☐	Will complete anonymity of participants be guaranteed?
☒	☐	Will records remain confidential and access to data be restricted?

(b) Voluntary participation and complaints procedure

Please tick YES or NO for each

YES	NO	
☒	☐	Are participants able to withdraw from the project at any time without penalty?
☒	☐	Will participants be made fully aware of the College's complaints procedure should they have any concerns regarding the researcher or the project?

*If you answered **no** to any of the question 7 above, please provide additional information below explaining why these procedures are not being followed and how potential risks to participants will be minimised.*

8. Are there any forseeable risks or possible offence to the participants?

Please tick YES or NO for each

YES	NO	
☐	☒	Social risks
☐	☒	Legal risks
☐	☒	Psychological risks
☐	☒	Physical risks
☐	☒	Cultural, religious or moral offence
☐	☒	Any other risks

*If you answered **yes** to any of the above, please provide additional information below explaining the nature of the risk or offence, how it will be minimised and access to support services.*

9. Are there any other ethical issues that should be drawn to the attention of the Educational Research Human Ethics Committee?

☒ **NO**
☐ **YES**

*If you answered **yes**, please provide additional information below explaining the ethical issue(s) and how it will be addressed.*

10. Participant information sheet

Please attach a copy of the Information Sheet that you will provide to participants in your study.

The Educational Research Human Ethics Committee has strict but simple requirements for Participant Information Sheets.

11. Consent Form

Please attach a copy of the consent form(s) that participants in your study will sign.

The Educational Research Human Ethics Committee has strict but simple requirements for Consent Forms. These guidelines must be followed or your application will not be considered.

12. Self Checklist

Please attach a copy of the completed Self Checklist (available from the website).

13. Declaration

I AM APPLYING FOR **ETHICAL APPROVAL** FOR THE RESEARCH PROJECT AS OUTLINED ABOVE.

I have read the ERHEC Principles and Guidelines and I am aware of the implications of my research project. I understand the details of the Privacy Act mentioned in these guidelines and how they influence the subjects I choose as participants in my research work.

The project has been accurately described in this application and I have included all the necessary documents and information to support my application including the completed Self Checklist.

I undertake to reapply should circumstances relevant to this application change.

Principal Researcher's Name	Janice Belgrave	**Date:**	31/07/2012
Signed:			

For Academic Supervisor - student projects only

Please note that applications for ethical approval will be given preference if the student has submitted their research proposal for registration.

Please tick the relevant box:

- ☐ The student has not submitted their research proposal for consideration.
- ☐ The student has submitted their research proposal for consideration. Date submitted:_____
- ☐ The student has successfully registered their research proposal. Date registered: _____

I have read the student's application for ethical approval including the information and consent forms and checked all documents against the Self Checklist.

I undertake to work with the student on any revisions required by ERHEC before these revisions are sent back to ERHEC.

Academic Supervisor's Name	Professor John Everatt	**Date:**	31/07/2012
Signed:			

NB – THIS DECLARATION MUST BE HAND-SIGNED

Appendix 1.2: Information sheet for child participants

College of Education
Janice Belgrave
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Telephone: 033746138 ex43226
Email: janice.belgrave@pg.canterbury.ac.nz

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Sociocultural and Cognitive Considerations in Early Literacy Interventions
Information sheet for child participants

I am a lecturer and PhD candidate in literacy education at the College of Education, University of Canterbury. I am conducting a research to try and find out the best way to help children who are learning to read and write. I will be at your school for two terms and I would like to invite you to take part in my present study. If you agree to take part you will be asked to do the following:

- To take part in an interview of approximately 30 minutes about your learning in reading and writing
- To take part in some reading and writing tests, these will take about 3-4 hours, over 3-2 days.
- Work with me either by yourself or in a small group of children around the same age as you, on your reading and writing, for one hour a week, for 8 weeks in each term.

Please note that taking part in this study is voluntary. If you do take part, you have the right to withdraw from the study at any time. If you withdraw, I will do my best to remove any information relating to you, provided this is practically achievable.

I will take particular care to ensure the confidentiality of all data gathered for this study. I will also take care to ensure your anonymity in publications of the findings. All the data will be securely stored in password protected facilities and locked storage at the University of Canterbury for five years following the study. It will then be destroyed.

The results of this research may be used to develop programmes for other schools to use, to help children learn to read and write. The results will also be reported internationally at conferences and in teaching journals. All participants will receive a report on the study.

If you have any questions about the study, please contact me (details above). If you have a

complaint about the study, you may contact the Chair, Educational Research Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

If you agree to participate in this study, please complete the attached consent form and return it to me in the envelope provided by [date to be confirmed].

I am looking forward to working with you and thank you in advance for your contributions.

Janice Belgrave M Ed.

Appendix 1.3: Information sheet for parents

College of Education
Janice Belgrave
University of Canterbury
Dovedale Avenue
CHRISTCHURCH
Email: janice.belgrave@pg.canterbury.ac.nz

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Socio-cultural and dialectical considerations in early literacy interventions.

Information sheet for parents.

I am a part time lecturer and PHD candidate at the College of Education, University of Canterbury. I am currently undertaking a research project as part of the requirements for my PHD. This research will involve a combination of interviews, testing children's literacy skills and providing tuition to four groups of children, over two school terms. If you agree to take part you will be asked to do the following:

- To take part in an interview of approximately 30 minutes about your child's learning in reading and writing.
- In addition to an interview to assist with assessing children's oral language, which will be audio taped, your child will also be involved in the following ways;
- They will take part in some reading and writing tests. These will take about 3-4 hours, over 3-2 days, to establish base data, then
- Work with me either by themselves or in a small group of children around the same age and ability, on reading and writing, for one hour a week, for 8 weeks in each term.

During these 'intervention sessions', I will be working on skills for reading, such as letter/sound knowledge, whole word knowledge and comprehension strategies. For writing, I will be working on text structures and spelling knowledge. I will also be working on helping children understand the differences in the way we sometimes speak, compared to the way words in books and stories are written, for example – 'I dunno', would be written as 'I don't know'. All testing, interviews and intervention sessions for children, will be conducted in school time. Parents interviews will be conducted at a time that suits them.

Please note that participation in this study is voluntary. If you do participate, you have the right to withdraw from the study at any time without penalty. If you withdraw, I will do my best to remove any information relating to you, provided this is practically achievable.

I will take particular care to ensure the confidentiality of all data gathered for this study. I will also take care to ensure your anonymity in publications of the findings. All the data will be securely stored in password protected facilities and locked storage at the University of Canterbury for five years following the study. It will then be destroyed.

The results of this research may be used to develop programmes that could be used in schools, to help children with their reading and writing. The results will also be reported internationally at conferences and in teaching journals. All participants will receive a report on the study.

If you have any questions about the study, please contact me (details above). If you have a complaint about the study, you may contact the Chair, Educational Research Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

If you agree to participate in this study, please complete the attached consent form and return it to your child's classroom teacher in the envelope provided by 1 March, 2013.

Janice Belgrave M Ed.

Appendix 1.4: Information sheet for Principals and teachers and parents

College of Education
Janice Belgrave
University of Canterbury
Dovedale Avenue
CHRISTCHURCH
Telephone: 03 3746138 ex43226
Email: janice.belgrave@pg.canterbury.ac.nz

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Sociocultural and Cognitive Considerations in Early Literacy Interventions
Information sheet for Principals and teachers and parents.

I am a part time lecturer and PHD candidate at the College of Education, University of Canterbury. I am currently undertaking a research project as part of the requirements for my PHD. This research will involve a combination of interviews, testing children's literacy skills and providing tuition to four groups of children, over two school terms. If you agree to take part you will be asked to do the following:

- To take part in an interview of approximately 30 minutes about your child's/ student's learning in reading and writing.

Please note that participation in this study is voluntary. If you do participate, you have the right to withdraw from the study at any time without penalty. If you withdraw, I will do my best to remove any information relating to you, provided this is practically achievable.

I will take particular care to ensure the confidentiality of all data gathered for this study. I will also take care to ensure your anonymity in publications of the findings. All the data will be securely stored in password protected facilities and locked storage at the University of Canterbury for five years following the study. It will then be destroyed.

The results of this research may be used to develop programmes that could be used in schools, to help children with their reading and writing. The results will also be reported internationally at conferences and in teaching journals. All participants will receive a report on the study.

If you have any questions about the study, please contact me (details above). If you have a

complaint about the study, you may contact the Chair, Educational Research Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

If you agree to participate in this study, please complete the attached consent form and return it to me in the envelope provided by [date to be confirmed].

I am looking forward to working with you and thank you in advance for your contributions.

Janice Belgrave M Ed.

Appendix 1.5: Information sheet for Principals and BOT

College of Education
Janice Belgrave
University of Canterbury
Dovedale Avenue
CHRISTCHURCH
Email: janice.belgrave@pg.canterbury.ac.nz

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Socio-cultural and dialectical considerations in early literacy interventions.

Information sheet for Principals and BOT.

I am a part time lecturer and PHD candidate at the College of Education, University of Canterbury. I am currently undertaking a research project as part of the requirements for my PHD. This research will involve a combination of interviews, testing children's literacy skills and providing tuition to four groups of children, over two school terms. Please note, that if you agree to your School taking part in this study, there will be no formal involvement by yourself or any board members, other than giving your consent for the researcher to be involved with selected teachers, students and parents from your school. Participation for teachers and parents will involve;

- An interview of approximately 30 minutes about their students'/child's learning in reading and writing.

Participation for students will also involve an interview to assist in assessing each child's oral language, and also; (This interview will be audio taped).

- To take part in some reading and writing tests. These will take about 3-4 hours, over 3-2 days

- To work with me either by themselves or in a small group of children around the same age/ability on reading and writing, for one hour a week, for 8 weeks in each term.

During these 'intervention sessions', I will be working on skills for reading, such as letter/sound knowledge, whole word knowledge and comprehension strategies. For writing, I will be working on text structures and spelling knowledge. I will also be working on helping children understand the differences in the way we sometimes speak, compared to the way words in books and stories are written, for example – 'I dunno', would be written as 'I don't

know'. All testing, interviews and intervention sessions for children, will be conducted in school time. Parent and teacher interviews will be conducted at a time that suits them.

Please note that participation in this study is voluntary. If you do participate, you have the right to withdraw from the study at any time without penalty. If you withdraw, I will do my best to remove any information relating to you, provided this is practically achievable.

I will take particular care to ensure the confidentiality of all data gathered for this study. I will also take care to ensure your anonymity in publications of the findings. All the data will be securely stored in password protected facilities and locked storage at the University of Canterbury for five years following the study. It will then be destroyed.

The results of this research may be used to develop programmes that could be used in schools, to help children with their reading and writing. The results will also be reported internationally at conferences and in teaching journals. All participants will receive a report on the study.

If you have any questions about the study, please contact me (details above). If you have a complaint about the study, you may contact the Chair, Educational Research Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

If you agree to participate in this study, please complete the attached consent form and return it to me in the envelope provided by 1 March, 2013.

Janice Belgrave M Ed.

Appendix 1.6: Consent Form for Children

College of Education

Janice Belgrave
University of Canterbury
Dovedale Avenue
CHRISTCHURCH
Telephone: 03 3746138 ex43226
Email: janice.belgrave@pg.canterbury.ac.nz

Sociocultural and Cognitive Considerations in Early Literacy Interventions

Consent Form for Children

(Please tick each box)

- ☐ **I have read the information sheet and understand what will be required of me if I participate in this project.**
- ☐ **I understand that the interview will be audio-taped.**
- ☐ **I have read the information letter and understand that all information collected will only be accessed by the researcher and that it will be kept confidential and secure.**
- ☐ **I understand that neither I, nor my school, will be identified in any presentations or publications that draw on this research.**
- ☐ **I understand that my participation is voluntary and I may choose to withdraw at anytime.**
- ☐ **I understand that I can receive a report on the findings of the study. I have written my email address below for the report to be sent to.**
- ☐ **I understand that I can get more information about this project from the researcher, and that I can contact the University of Canterbury Ethics Committee if I have any complaints about the research.**

- ☐ **I agree to participate in this research and my parents have also given consent on their consent form.**

Full name (student)_____

Class_____ ClassTeacher_____

Signature_____Date_____

Email address for report_____

Please return this consent form in the sealed envelope to your class teacher.

Appendix 1.7: Consent Form for Parents

Janice Belgrave
University of Canterbury
Dovedale Avenue
CHRISTCHURCH
Email: janice.belgrave@pg.canterbury.ac.nz

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Socio-cultural and dialectical considerations in early literacy interventions.
Consent form for Parents

- I have been given a full explanation of this project and have been given an opportunity to ask questions.
- I understand what will be required of me if I agree to take part in this project.
- I understand that my child/children's interview will be audio taped.
- I understand that my participation is voluntary and that I may withdraw at any stage without penalty.
- I understand that any information or opinions I provide will be kept confidential to the researcher and that any published or reported results will not identify me.
- I understand that all data collected for this study will be kept in locked and secure facilities at the University of Canterbury and will be destroyed after five years.
- I understand that I will receive a report on the findings of this study. I have provided my emil details below for this.
- I understand that if I require further information I can contact the researcher, Janice Belgrave. If I have any complaints, I can contact the Chair of the University of Canterbury Educational Research Human Ethics Committee. (human-ethics@canterbury.ac.nz)

By signing below, I agree to participate in this research project.
Name: _____
Date: _____
Signature: _____
Email address: _____

Please return this completed consent form to your child's classroom teacher in the envelope provided by 1 March, 2013.

Appendix 1.8: Consent Form for parents and teachers and Principals

College of Education
Janice Belgrave
University of Canterbury
Dovedale Avenue
CHRISTCHURCH
Telephone: 03 3746138 ex43226
Email: janice.belgrave@pg.canterbury.ac.nz

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Sociocultural and Cognitive Considerations in Early Literacy Interventions
Consent form for parents and teachers and Principals

- I have been given a full explanation of this project and have been given an opportunity to ask questions.
- I understand what will be required of me if I agree to take part in this project.
- I understand that my participation is voluntary and that I may withdraw at any stage without penalty.
- I understand that any information or opinions I provide will be kept confidential to the researcher and that any published or reported results will not identify me.
- I understand that all data collected for this study will be kept in locked and secure facilities at the University of Canterbury and will be destroyed after five years.
- I understand that I will receive a report on the findings of this study. I have provided my email details below for this.
- I understand that if I require further information I can contact the researcher, Janice Belgrave. If I have any complaints, I can contact the Chair of the University of Canterbury Educational Research Human Ethics Committee. (human-ethics@canterbury.ac.nz)

By signing below, I agree to participate in this research project.
Name: _____
Date: _____
Signature: _____
Email address: _____

Please return this completed consent form to [name] in the envelope provided by [to be confirmed].

Appendix 1.9: Consent Form for Principals

College of Education
Janice Belgrave
University of Canterbury
Dovedale Avenue
CHRISTCHURCH
Email: janice.belgrave@pg.canterbury.ac.nz

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Socio-cultural and dialectical considerations in early literacy interventions.
Consent form for Principals

- I have been given a full explanation of this project and have been given an opportunity to ask questions.
- I understand what will be required of our school if we agree to take part in this project.
- I understand that our students' interview/s will be audio taped.
- I understand that our participation is voluntary and that we may withdraw at any stage without penalty.
- I understand that any information or opinions we provide will be kept confidential to the researcher and that any published or reported results will not identify us or our school.
- I understand that all data collected for this study will be kept in locked and secure facilities at the University of Canterbury and will be destroyed after five years.
- I understand that we will receive a report on the findings of this study. I have provided my email details below for this.
- I understand that if we require further information we can contact the researcher, Janice Belgrave. If I have any complaints, I can contact the Chair of the University of Canterbury Educational Research Human Ethics Committee. (human-ethics@canterbury.ac.nz)

By signing below, I agree to our school participating in this research project.
Name: _____
Date: _____
Signature: _____
Email address: _____
Please return this completed consent form to Janice Belgrave in the envelope provided by 1 March, 2013.

Appendix 1.10 Consent Form for Boards of Trustees

College of Education
Janice Belgrave
University of Canterbury
Dovedale Avenue
CHRISTCHURCH
Email: janice.belgrave@pg.canterbury.ac.nz

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Socio-cultural and dialectical considerations in early literacy interventions.
Consent form for Boards of Trustees

- We have been given a full explanation of this project and have been given an opportunity to ask questions.
- We understand what will be required of our school if we agree to take part in this project.
- We understand that our students' interview/s will be audio taped.
- We understand that our participation is voluntary and that we may withdraw at any stage without penalty.
- We understand that any information or opinions we provide will be kept confidential to the researcher and that any published or reported results will not identify us or our school.
- We understand that all data collected for this study will be kept in locked and secure facilities at the University of Canterbury and will be destroyed after five years.
- We understand that we will receive a report on the findings of this study. We have provided our email details below for this.
- We understand that if we require further information we can contact the researcher, Janice Belgrave. If we have any complaints, we can contact the Chair of the University of Canterbury Educational Research Human Ethics Committee. (human-ethics@canterbury.ac.nz)

By signing below, we agree to our school participating in this research project.
Name: _____
Date: _____
Signature: _____
Email address: _____
Please return this completed consent form to your school Principal in the envelope provided by 1 March, 2013.

Appendix 1.11 Consent Form for Teachers

College of Education
Janice Belgrave
University of Canterbury
Dovedale Avenue
CHRISTCHURCH
Email: janice.belgrave@pg.canterbury.ac.nz

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Socio-cultural and dialectical considerations in early literacy interventions.
Consent form for Teachers

- I have been given a full explanation of this project and have been given an opportunity to ask questions.
- I understand what will be required of me if I agree to take part in this project.
- I understand that my student's interview/s will be audio taped.
- I understand that my participation is voluntary and that I may withdraw at any stage without penalty.
- I understand that any information or opinions I provide will be kept confidential to the researcher and that any published or reported results will not identify me.
- I understand that all data collected for this study will be kept in locked and secure facilities at the University of Canterbury and will be destroyed after five years.
- I understand that I will receive a report on the findings of this study. I have provided my email details below for this.
- I understand that if I require further information I can contact the researcher, Janice Belgrave. If I have any complaints, I can contact the Chair of the University of Canterbury Educational Research Human Ethics Committee. (human-ethics@canterbury.ac.nz)

By signing below, I agree to participate in this research project.
Name: _____
Date: _____
Signature: _____
Email address: _____

Please return this completed consent form to your Principal in the envelope provided by 1 March, 2013.

Appendix 1.12 Ethics Approval Letter

UNIVERSITY OF CANTERBURY

HUMAN ETHICS COMMITTEE

Secretary, Lynda Griffioen
Email: human-ethics@canterbury.ac.nz

Ref: 2012/35/ERHEC

5 September 2012

Janice Belgrave
School of Literacies & Arts in Education
UNIVERSITY OF CANTERBURY

Dear Janice

Thank you for providing the revised documents in support of your application to the Educational Research Human Ethics Committee. I am very pleased to inform you that your research proposal "Socio-cultural and cognitive considerations in early literacy interventions" has been granted ethical approval.

Please note that should circumstances relevant to this current application change you are required to reapply for ethical approval.

If you have any questions regarding this approval, please let me know.

We wish you well for your research.

Yours sincerely

Nicola Surtees
Chair
Educational Research Human Ethics Committee

"Please note that Ethical Approval and/or Clearance relates only to the ethical elements of the relationship between the researcher, research participants and other stakeholders. The granting of approval or clearance by the Ethical Clearance Committee should not be interpreted as comment on the methodology, legality, value or any other matters relating to this research."

Appendix Two: Additional Assessment Information

Appendix 2.1: Dialect Sensitive Spelling Test

1. The…….f/v/d
2. Of…….v/ve
3. With……..f/v
4. Find……omission
5. Eyes……..ice
6. Milk……oo/ow/aw
7. Last ……omission
8. Used……..newsd/youse
9. Fell……..ow/aw/ull
10. Lots…….reversal
11. Tell……..ow/ul/awl
12. Just……..omission
13. Nothing….f and k
14. Felt……oe, aw/owl
15. Wanted……omission
16. That……d/f/v
17. Going……..omission
18. Something…f and K
19. Threw…….fr
20. Told……omission
21. Thing……..f and K
22. Door……..ow/aw
23. Pond……..omission
24. His……..omission
25. Drink……..j/ch
26. Chop……..sh /omission
27. Hat……..omission
28. Truck…….ch
29. Lap……omission
30. asked……..aksed

Appendix 2.2: Oral Dialect Density Testing Measure

1. I asked my mum for something different to eat.
   aksed f/v diffrin ea

2. I used to stay with my friend every Thursday night.
   news/st v/f frien f nigh

3. The sun was in my eyes and I didn't see the boat sailing past.
   v/d/n ice didin bo sailin pas

4. My Mother is going to go to Australia for a holiday
   v/d goin/gonna stralia oliday

5. My big Brother left his new bike at school
   f/v leff is biig

6. In the holidays our cat was chasing a bird!
   d/v olidays ca chasin bir

LEVELLING THE BOXES AND BOOKS

The Colour Wheel used in the new Ready to Read series should be used.
A Master Chart with the colour code key and Reading Levels should be displayed wherever the Readers are housed.

COLOUR WHEEL KEY

Reading Level	Age	Reading Recovery	Colour Code	Ready to Read Series	R/R Series		Old Dept Series	The PM Library		Storybox	Sunshine	Foundations
5 – 5½	5 to 6	0 1 2		Magenta	Emergent		Early Reading	Alphabet Book Starters 1&2		Read together Get ready Ready Set Go A/B	↑ Early Emergent & Early Fiction	Red top 1 Red ball 2 Orange ball 3 Yellow ball 4 Green ball 5 Blue ball
		3 4 5		Red	Red		Red	Red Level		Ready Set Go B	LEVEL ONE	
		6 7 8		Yellow	Yellow		Yellow	Yellow Level		Ready Set Go C		Yellow top 6 Red ball 7 Orange 8 Yellow 9 Green 10 Blue 11 Indigo 12 Violet
5½ – 6		9 10 11		Dark Blue	Dark Blue		Blue	Blue Level		Ready Set Go D		
		12 13 14		Green	Green	↑ JUNIOR JOURNALS	Green	Green Level		Stage 2 (Brown)	Level 2	
6 – 6½	6 to 7	15 16		Orange	Pitas Birthday Big Red		Hungry Lambs	Animal Facts / Traditional Tales & Plays / Stories	Orange	Stage 3 (Crimson)	Level 3	Blue top 13 Red 14 Orange 15 Yellow 16 Green 17 Blue
6½ – 7		17 18		Light Blue/ Turquoise	Horrakapotchkin		Boat Day		Turquoise	Stage 4 (Olive Green)	Level 4	
7 – 7½	7 to 8	19 20		Purple	Giant soup - Crinkum Crankum		Donkeys Egg		Purple	Stage 5 (Turquoise)	Level 5	
7½ – 8		21 22		Dark Yellow/Gold	Night is a Blanket		Sweet Porridge		Gold	Stage 6 (Purple)	Level 6	
8 – 8½	8 to 9	23 24 25 26		Emerald	Journals Pt 1		Stars in the Sky		Silver	Stage 7 (Orange)	Level 7	
8½ – 9				White	Journals Pt 1 - 3	↓ SCHOOL STORYLIB	Sliding and Flying	Chapter Books ↓		Story Chest Stages 8-9 Sunshine Levels	Level 8 - 9	
	9 to 10									Stages 10 & 11 Sunshine leads 10-11	Level 10 - 11	
	10 to 11				Journals Pt 4					Stages 12 & 13	Series Level 10+ Literacy Links (Gold+) Wonder World Chapter books, Banana Books (yellow/blue), Tui Turbos, Jets, Super Jets, Simon & Schuster Storybooks, Junior Puffins, Zappers, Corgis	

Adapted by Marion Hartley and members of the Language Reading Team, School of Education, University of Waikato, 1999.

Appendix 2.4 Study Two correlation tables

Time 1 correlations (Pre testing)

		Peters1	Burt1	PhonA1	DiErr1	RRL1	Write1	Read1	Age1
Peters1	Pearson Correlation	1	.821**	.768**	-.425**	.724**	-.153	.677**	.480**
	Sig. (2-tailed)		.000	.000	.001	.000	.242	.000	.000
	N	60	60	60	60	60	60	60	60
Burt1	Pearson Correlation	.821**	1	.761**	-.381**	.797**	-.131	.738**	.510**
	Sig. (2-tailed)	.000		.000	.003	.000	.317	.000	.000
	N	60	60	60	60	60	60	60	60
PhonA1	Pearson Correlation	.768**	.761**	1	-.436**	.782**	-.045	.692**	.431**
	Sig. (2-tailed)	.000	.000		.001	.000	.732	.000	.001
	N	60	60	60	60	60	60	60	60
DiErr1	Pearson Correlation	-.425**	-.381**	-.436**	1	-.327*	.318*	-.261*	.053
	Sig. (2-tailed)	.001	.003	.001		.011	.013	.044	.690
	N	60	60	60	60	60	60	60	60
RRL1	Pearson Correlation	.724**	.797**	.782**	-.327*	1	.171	.946**	.579**
	Sig. (2-tailed)	.000	.000	.000	.011		.191	.000	.000
	N	60	60	60	60	60	60	60	60
Write1	Pearson Correlation	-.153	-.131	-.045	.318*	.171	1	.292*	.100
	Sig. (2-tailed)	.242	.317	.732	.013	.191		.024	.446
	N	60	60	60	60	60	60	60	60
Read1	Pearson Correlation	.677**	.738**	.692**	-.261*	.946**	.292*	1	.538**
	Sig. (2-tailed)	.000	.000	.000	.044	.000	.024		.000
	N	60	60	60	60	60	60	60	60
Age1	Pearson Correlation	.480**	.510**	.431**	.053	.579**	.100	.538**	1
	Sig. (2-tailed)	.000	.000	.001	.690	.000	.446	.000	
	N	60	60	60	60	60	60	60	60

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Time 2 correlations (Mid point testing)

		Peters2	Burt2	PhonA2	DiErr2	RRL2	Write2	Read2	Age2
Peters2	Pearson Correlation	1	.811**	.712**	-.344**	.781**	.478**	.753**	.524**
	Sig. (2-tailed)		.000	.000	.007	.000	.000	.000	.000
	N	60	60	60	60	60	60	60	60
Burt2	Pearson Correlation	.811**	1	.647**	-.339**	.803**	.626**	.811**	.516**
	Sig. (2-tailed)	.000		.000	.008	.000	.000	.000	.000
	N	60	60	60	60	60	60	60	60
PhonA2	Pearson Correlation	.712**	.647**	1	-.439**	.744**	.311*	.666**	.319*
	Sig. (2-tailed)	.000	.000		.000	.000	.015	.000	.013
	N	60	60	60	60	60	60	60	60
DiErr2	Pearson Correlation	-.344**	-.339**	-.439**	1	-.372**	-.275*	-.326*	-.023
	Sig. (2-tailed)	.007	.008	.000		.003	.033	.011	.860
	N	60	60	60	60	60	60	60	60
RRL2	Pearson Correlation	.781**	.803**	.744**	-.372**	1	.498**	.957**	.491**
	Sig. (2-tailed)	.000	.000	.000	.003		.000	.000	.000
	N	60	60	60	60	60	60	60	60
Write2	Pearson Correlation	.478**	.626**	.311*	-.275*	.498**	1	.578**	.348**
	Sig. (2-tailed)	.000	.000	.015	.033	.000		.000	.007
	N	60	60	60	60	60	60	60	60
Read2	Pearson Correlation	.753**	.811**	.666**	-.326*	.957**	.578**	1	.462**
	Sig. (2-tailed)	.000	.000	.000	.011	.000	.000		.000
	N	60	60	60	60	60	60	60	60
Age2	Pearson Correlation	.524**	.516**	.319*	-.023	.491**	.348**	.462**	1
	Sig. (2-tailed)	.000	.000	.013	.860	.000	.007	.000	
	N	60	60	60	60	60	60	60	60

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Time 3 correlations (Post testing)

		Peters3	Burt3	PhonA3	DiErr3	RRL3	Write3	Read3	Age3
Peters3	Pearson Correlation	1	.772**	.562**	-.276*	.805**	.602**	.804**	.572**
	Sig. (2-tailed)		.000	.000	.033	.000	.000	.000	.000
	N	60	60	60	60	60	60	60	60
Burt3	Pearson Correlation	.772**	1	.489**	-.260*	.828**	.580**	.853**	.520**
	Sig. (2-tailed)	.000		.000	.045	.000	.000	.000	.000
	N	60	60	60	60	60	60	60	60
PhonA3	Pearson Correlation	.562**	.489**	1	-.485**	.639**	.344**	.559**	.085
	Sig. (2-tailed)	.000	.000		.000	.000	.007	.000	.518
	N	60	60	60	60	60	60	60	60
DiErr3	Pearson Correlation	-.276*	-.260*	-.485**	1	-.248	-.136	-.189	.050
	Sig. (2-tailed)	.033	.045	.000		.056	.300	.148	.704
	N	60	60	60	60	60	60	60	60
RRL3	Pearson Correlation	.805**	.828**	.639**	-.248	1	.598**	.963**	.503**
	Sig. (2-tailed)	.000	.000	.000	.056		.000	.000	.000
	N	60	60	60	60	60	60	60	60
Write3	Pearson Correlation	.602**	.580**	.344**	-.136	.598**	1	.645**	.398**
	Sig. (2-tailed)	.000	.000	.007	.300	.000		.000	.002
	N	60	60	60	60	60	60	60	60
Read3	Pearson Correlation	.804**	.853**	.559**	-.189	.963**	.645**	1	.539**
	Sig. (2-tailed)	.000	.000	.000	.148	.000	.000		.000
	N	60	60	60	60	60	60	60	60
Age3	Pearson Correlation	.572**	.520**	.085	.050	.503**	.398**	.539**	1
	Sig. (2-tailed)	.000	.000	.518	.704	.000	.002	.000	
	N	60	60	60	60	60	60	60	60

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

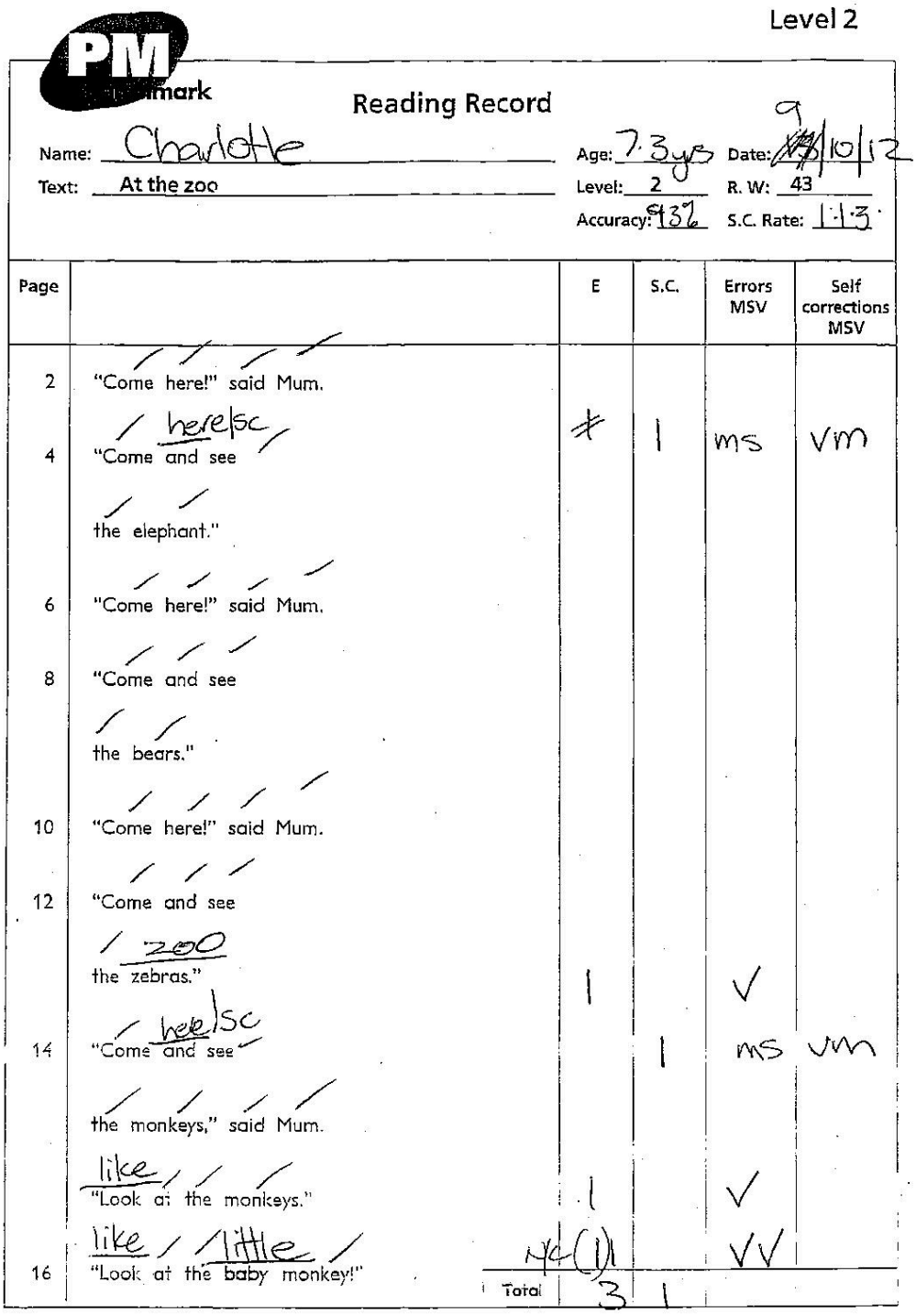
Time 4 correlations (follow up testing)

		Peters4	Burt4	PhonA4	DiErr4	RRL4	Write4	Read4	Age4
Peters4	Pearson Correlation	1	.782**	.541**	-.451**	.694**	.571**	.679**	.492**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000
	N	60	60	60	60	60	60	60	60
Burt4	Pearson Correlation	.782**	1	.512**	-.554**	.807**	.598**	.810**	.487**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000
	N	60	60	60	60	60	60	60	60
PhonA4	Pearson Correlation	.541**	.512**	1	-.691**	.671**	.556**	.577**	.349**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.006
	N	60	60	60	60	60	60	60	60
DiErr4	Pearson Correlation	-.451**	-.554**	-.691**	1	-.584**	-.460**	-.529**	-.366**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.004
	N	60	60	60	60	60	60	60	60
RRL4	Pearson Correlation	.694**	.807**	.671**	-.584**	1	.740**	.968**	.486**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000
	N	60	60	60	60	60	60	60	60
Write4	Pearson Correlation	.571**	.598**	.556**	-.460**	.740**	1	.733**	.399**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.002
	N	60	60	60	60	60	60	60	60
Read4	Pearson Correlation	.679**	.810**	.577**	-.529**	.968**	.733**	1	.536**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.000
	N	60	60	60	60	60	60	60	60
Age4	Pearson Correlation	.492**	.487**	.349**	-.366**	.486**	.399**	.536**	1
	Sig. (2-tailed)	.000	.000	.006	.004	.000	.002	.000	
	N	60	60	60	60	60	60	60	60

** . Correlation is significant at the 0.01 level (2-tailed).

Appendix Three: Participant Samples

Appendix 3.1: Charlotte



Level 2

PM mark

Reading Record

Name: Charlotte Age: 7.3yrs Date: 9/10/12

Text: At the zoo Level: 2 R. W: 43

Accuracy: 93% S.C. Rate: 1:1.3

Page		E	S.C.	Errors MSV	Self corrections MSV
2	"Come here!" said Mum.				
4	"Come here|sc and see the elephant."	*	1	ms	vm
6	"Come here!" said Mum.				
8	"Come and see the bears."				
10	"Come here!" said Mum.				
12	"Come and see the zoo zebras."	1		✓	
14	"Come hee|sc and see the monkeys," said Mum.		1	ms	vm
	like "Look at the monkeys."	1		✓	
16	like little "Look at the baby monkey!"	MC(1)		VV	
	Total	3	1		

PM Benchmark

Level 2: *At the zoo*

Assessment Record

Analysis of retelling *(meaning, main ideas, coherence, vocabulary, reference to text)*

Questions to check for understanding *(tick if understanding acceptable)*

1. Where did the boy and his mother go to see the animals?

Response: The zoo ☑

2. What were some of the animals that they saw?

Response: Monkey, zoo, elephant ½

3. Which animal do you think the boy liked best?

Response: Monkey ☑

Reading level

Accuracy level: 43/3 = 1: 14·3 = 93%

Self-correction rate: 3+1/3 = 1·3 = 1: 1·3

Reading level *(with understanding)*: Easy / Instructional / Hard

Analysis of reading behaviours *(print concepts, meaning cues, structural cues, visual information, self-monitoring, self-correcting, fluency, expression)*

Self correcting for meaning / visual like/look → medial vowel sounds. (come here)

Recommendations: Some reading by memory

Medial vowels.

Teacher: JB Date benchmark assessment completed:

Appendix 3.2: Helen

PM Benchmark

Level 9

Reading Record

Name: Helen Age: 6.8yrs Date: 8/10/12

Text: Clever Little Dinosaur Level: 9 R. W: 107

107/8 Accuracy: 1:13.4 S.C. Rate:

Page		E	S.C.	Errors MSV	Self corrections MSV
3	Little Dinosaur				
	came (come) out of his hole.	1		✓	
	"I can't (can) see Big Dinosaur today," he said (she).	1		✓	
	"I will go for a walk.	1		✓	
	I will go down to the river." (water)	1		MS	
5	Little Dinosaur liked (like) eating dragonflies (dragons)	1		✓	
	down by the river. (water)	1		✓	
	A green dragonfly came out of the forest. (dragon)	n/c (1) n/c (1)			
	Little Dinosaur ran after it.				
	He jumped up (jump) at it again and again.	1		✓	
6	Little Dinosaur jumped on Big Dinosaur's tail.				
	Oh, no! This made Big Dinosaur wake up!				
8	Big Dinosaur got up.				
	He ran after Little Dinosaur.				
9	"Help!" cried (said) Little Dinosaur.	1		MS	
11	Little Dinosaur had to get away.				
	He ran into the forest.				
	"Big Dinosaur can't run fast				
	in the forest," he said.				
	Total	8	0		

PM Benchmark

Level 9: *Clever Little Dinosaur*

Assessment Record

Analysis of retelling *(meaning, main ideas, coherence, vocabulary, reference to text)*

Questions to check for understanding *(tick if understanding acceptable)*

1. What did Little Dinosaur like to eat? ☒

Response: Dragons

2. Why couldn't Big Dinosaur run fast in the forest? ☒

Response: He was asleep

3. Why do you think Little Dinosaur jumped on Big Dinosaur? ☒

Response: To play?

Reading level

Accuracy level: 107/8 = 1:13·4 = 92.5%

Self-correction rate: ____ = ____ = 1:

Reading level *(with understanding)*: Easy / (Instructional) / Hard

Analysis of reading behaviours *(print concepts, meaning cues, structural cues, visual information, self-monitoring, self-correcting, fluency, expression)*

Mainly visual errors.
Not reading through to word endings

Recommendations:

Work on word endings

Teacher: [illegible] **Date benchmark assessment completed:**